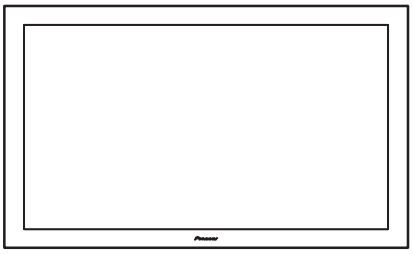
Pioneer sound.vision.soul

Service Manual



PDP-LX6080D

ORDER NO.
ARP3459

PLASMA TELEVISION

PDP-LX6080D
PDP-LX608D

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Remarks
PDP-LX6080D	WYVI5	AC 220 V to 240 V	
PDP-LX608D	WYVI5	AC 220 V to 240 V	

For details, refer to "Important Check Points for good servicing".

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ⓒ**PIONEER CORPORATION 2007**

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SAFETY INFORMATION

This service manual is intended for qualified service technicians ; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING
This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 - Proposition 65

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

SAFETY PRECAUTIONS

NOTICE : Comply with all cautions and safety related notes located on or inside the cabinet and on the chassis.

The following precautions should be observed :

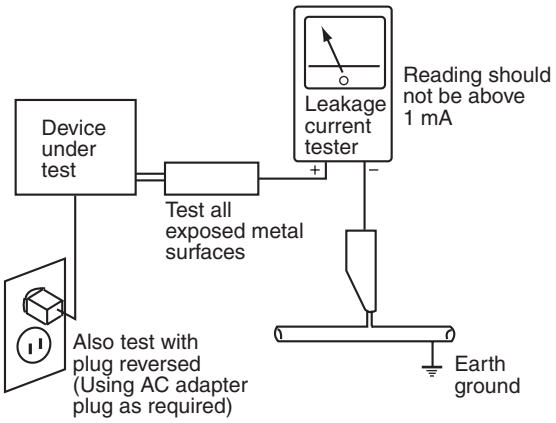
1. When service is required, even though the PDP UNIT an isolation transformer should be inserted between the power line and the set in safety before any service is performed.
2. When replacing a chassis in the set, all the protective devices must be put back in place, such as barriers, nonmetallic knobs, adjustment and compartment covershields, isolation resistor-capacitor, etc.
3. When service is required, observe the original lead dress. Extra precaution should be taken to assure correct lead dress in the high voltage circuitry area.
4. Always use the manufacture's replacement components. Especially critical components as indicated on the circuit diagram should not be replaced by other manufacture's. Furthermore where a short circuit has occurred, replace those components that indicate evidence of overheating.
5. Before returning a serviced set to the customer, the service technician must thoroughly test the unit to be certain that it is completely safe to operate without danger of electrical shock, and be sure that no protective device built into the set by the manufacture has become defective, or inadvertently defeated during servicing. Therefore, the following checks should be performed for the continued protection of the customer and servicetechnician.
6. Perform the following precautions against unwanted radiation and rise in internal temperature.
   - Always return the internal wiring to the original styling.
   - Attach parts (Gascket, Ferrite Core, Ground, Rear Cover, Shield Case etc.) surely after disassembly.
7. Perform the following precautions for the PDP panel.
   - When the front case is removed, make sure nothing hits the panel face, panel corner, and panel edge (so that the glass does not break).
   - Make sure that the panel vent does not break. (Check that the cover is attached.)
   - Handle the FPC connected to the panel carefully. Twisting or pulling the FPC when connecting it to the connector will cause it to peel off from the panel.
8. Pay attention to the following.
   - Pay extreme caution when the front case and rear panel are removed because this may cause a high risk of disturbance to TVs and radios in the surrounding.

Leakage Current Cold Check

With the AC plug removed from an AC power source, place a jumper across the two plug prongs. Turn the AC power switch on. Using an insulation tester (DC 500V), connect one lead to the jumpered AC plug and touch the other lead to each exposed metal part (input/output terminals, screwheads, metal overlays, control shafts, etc.), particularly any exposed metal part having a return path to the chassis. Exposed metal parts having a return path to the chassis should have a minimum resistor reading of 4 MΩ.
The below 4 MΩ resistor value indicate an abnormality which require corrective action. Exposed metal parts not having a return path to the chassis will indicate an open circuit.

Leakage Current Hot Check

Plug the AC line cord directly into an AC power source (do not use an isolation transformer for this check).
Turn the AC power switch on.
Using a "Leakage Current Tester (Simpson Model 229 equivalent)", measure for current from all exposed metal parts of the cabinet (input/output terminals, screwheads, metal overlays, control shaft, etc.), particularly any exposed metal part having a return path to the chassis, to a known earth ground (water pipe, conduit, etc.). Any current measured must not exceed 1 mA.


Reading should not be above 1 mA
Leakage current tester
+
–
Device under test
Test all exposed metal surfaces
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE SET TO THE CUSTOMER.

PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in PIONEER set have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.
Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.
The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire or other hazards.
Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

[Important Check Points for Good Servicing]

In this manual, procedures that must be performed during repairs are marked with the below symbol.
Please be sure to confirm and follow these procedures.

1. Product safety

Please conform to product regulations (such as safety and radiation regulations), and maintain a safe servicing environment by following the safety instructions described in this manual.

① Use specified parts for repair.

Use genuine parts. Be sure to use important parts for safety.

② Do not perform modifications without proper instructions.

Please follow the specified safety methods when modification(addition/change of parts) is required due to interferences such as radio/TV interference and foreign noise.

③ Make sure the soldering of repaired locations is properly performed.

When you solder while repairing, please be sure that there are no cold solder and other debris.
Soldering should be finished with the proper quantity. (Refer to the example)

④ Make sure the screws are tightly fastened.

Please be sure that all screws are fastened, and that there are no loose screws.

⑤ Make sure each connectors are correctly inserted.

Please be sure that all connectors are inserted, and that there are no imperfect insertion.

⑥ Make sure the wiring cables are set to their original state.

Please replace the wiring and cables to the original state after repairs.
In addition, be sure that there are no pinched wires, etc.

⑦ Make sure screws and soldering scraps do not remain inside the product.

Please check that neither solder debris nor screws remain inside the product.

⑧ There should be no semi-broken wires, scratches, melting, etc. on the coating of the power cord.

Damaged power cords may lead to fire accidents, so please be sure that there are no damages.
If you find a damaged power cord, please exchange it with a suitable one.

⑨ There should be no spark traces or similar marks on the power plug.

When spark traces or similar marks are found on the power supply plug, please check the connection and advise on secure connections and suitable usage. Please exchange the power cord if necessary.

⑩ Safe environment should be secured during servicing.

When you perform repairs, please pay attention to static electricity, furniture, household articles, etc. in order to prevent injuries.
Please pay attention to your surroundings and repair safely.

2. Adjustments

To keep the original performance of the products, optimum adjustments and confirmation of characteristics within specification.
Adjustments should be performed in accordance with the procedures/instructions described in this manual.

3. Lubricants, Glues, and Replacement parts

Use grease and adhesives that are equal to the specified substance.
Make sure the proper amount is applied.

4. Cleaning

For parts that require cleaning, such as optical pickups, tape deck heads, lenses and mirrors used in projection monitors, proper cleaning should be performed to restore their performances.

5. Shipping mode and Shipping screws

To protect products from damages or failures during transit, the shipping mode should be set or the shipping screws should be installed before shipment. Please be sure to follow this method especially if it is specified in this manual.

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1. SERVICE PRECAUTIONS

1.1 NOTES ON SOLDERING

- For environmental protection, lead-free solder is used on the printed circuit boards mounted in this unit.
  Be sure to use lead-free solder and a soldering iron that can meet specifications for use with lead-free solders for repairs accompanied by reworking of soldering.

- Compared with conventional eutectic solders, lead-free solders have higher melting points, by approximately 40 °C.
  Therefore, for lead-free soldering, the tip temperature of a soldering iron must be set to around 373 °C in general, although the temperature depends on the heat capacity of the PC board on which reworking is required and the weight of the tip of the soldering iron.

Compared with eutectic solders, lead-free solders have higher bond strengths but slower wetting times and higher melting temperatures (hard to melt/easy to harden).

The following lead-free solders are available as service parts:
- Parts numbers of lead-free solder:
  GYP1006 1.0 in dia.
  GYP1007 0.6 in dia.
  GYP1008 0.3 in dia.

1.2 CHARGED SECTION AND HIGH VOLTAGE GENERATING POINT

■ Charged Section

The places where the commercial AC power is used without passing through the power supply transformer.
If the places are touched, there is a risk of electric shock. In addition, the measuring equipment can be damaged if it is connected to the GND of the charged section and the GND of the non-charged section while connecting the set directly to the commercial AC power supply. Therefore, be sure to connect the set via an insulated transformer and supply the current.

1. Power Cord
2. AC Inlet
3. Power Switch
4. Fuse (In the POWER SUPPLY Unit)
5. STB Transformer and Converter Transformer (In the POWER SUPPLY Unit)
6. Other primary side of the POWER SUPPLY Unit

■ High Voltage Generating Point

The places where voltage is 100 V or more except for the charged places described above. If the places are touched, there is a risk of electric shock.
The VSUS voltage remains for several minutes after the power to the unit is turned off. These places must not be touched until about 10 minutes after the power is turned off, or it is confirmed with a tester that there is no residual VSUS voltage.

If the procedures described in "5.6.1 PANEL DRIVE-POWER ON/OFF FUNCTION" are performed before the power is turned off, the voltage will be discharged in about 30 seconds.

POWER SUPPLY UNIT .....(210 V)
60F X DRIVE Assy.....(210 V)
60F Y DRIVE Assy.....(–270 V to 400 V)
60F SCAN A Assy.....(–270 V to 400 V)
60F SCAN B Assy.....(–270 V to 400 V)
60F SCAN C Assy.....(–270 V to 400 V)
60F SCAN D Assy.....(–270 V to 400 V)

: Part is Charged Section.
: Part is the High Voltage Generating Points other than the Charged Section.

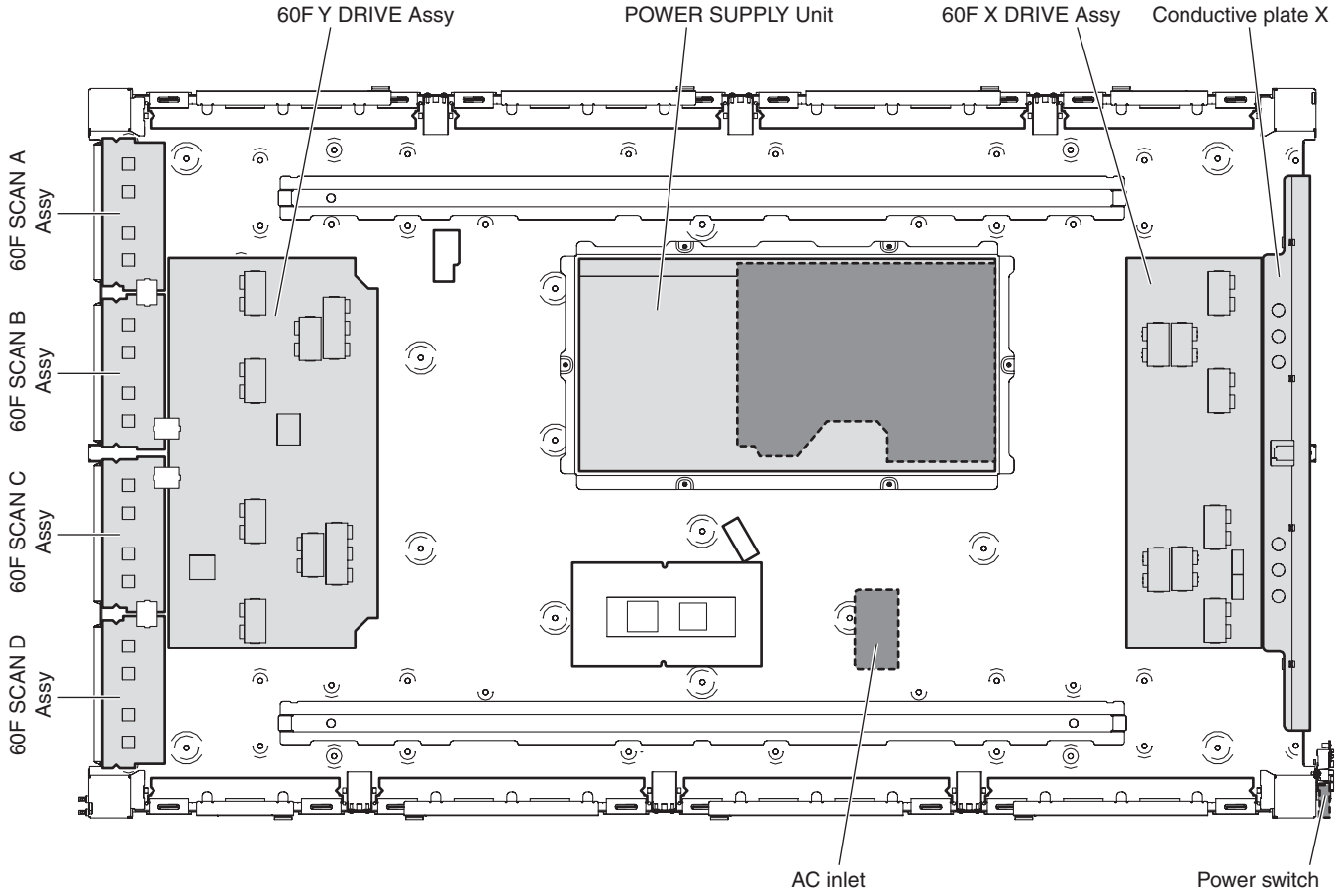
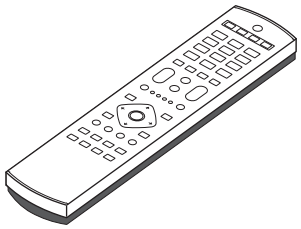


Fig. High Voltage Generating Point (Rear view)

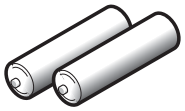
2. SPECIFICATIONS

2.1 ACCESSORIES

- Remote control unit
  (AXD1551)

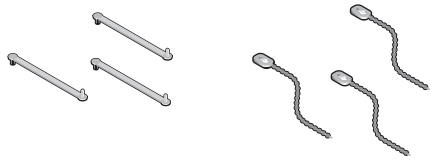


- Dry cell battery (R6, AA)

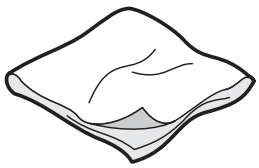


- Binder Assy
  (AEC1908)

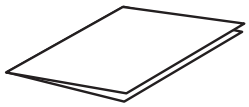
  - Speed clamp: x3
  - Bead band: x3



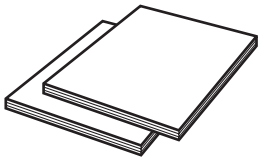
- Cleaning cloth (AED1285)



- Warranty card

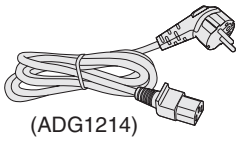


- Operating instructions
  (ARE1474)
  (ARC1585)

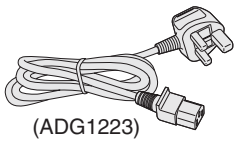


- Power cord (2 m)

  Only the power cable appropriate for your country or region is supplied:



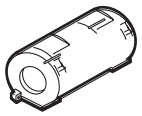
(ADG1214)
For Europe, except UK and Republic of Ireland



(ADG1223)
For UK and Republic of Ireland

- Ferrite core (L5321)
  (ATX1039)

  - Ferrite core
  - Cable tie
    (for ferrite core)



- Terminal position sheet
  (AAX3504)

(for use when mounting the plasma television on the wall)

2.2 SPECIFICATIONS

Item			60” plasma television, model : PDP-LX608D/PDP-LX6080D
Number of pixels			1920 x 1080 pixels
Audio amplifier			17 W + 17 W (1 kHz, 10 %, 6 Ω)
Sound Effect			SRS FOCUS/SRS/SRS TruBass
Power Requirements			220 V to 240 V AC, 50 Hz/60 Hz, 513 W (0.4 W Standby)
Weight			55.5 kg (122.4 lbs.)
Colour System		Analogue	PAL/SECAM/NTSC 3.58/NTSC 4.43/PAL 60
		Digital	PAL/SECAM
TV Function (Analogue)	Receiving System		B/G, D/K, I, L, L’
	Tuner	VHF/UHF	E2–E69 ch, F2–F10 ch, I21–I69 ch, IR A–IR J ch
		CATV	Hyper-band, S1–S41 ch
	Auto Channel Preset		99 ch, Auto Preset, Auto Label, Auto Sort
	STEREO		NICAM/A2
TV Function (Digital)	Receiving System		DVB-T(2K/8K COFDM)
	Tuner	VHF/UHF	VHF Band III (170 MHz to 230 MHz) and UHF Band IV, V (470 MHz to 862 MHz)
	Auto Channel Preset		99 ch, Auto Preset, Auto Label, Auto Sort
	STEREO		MPEG layer I/II, Dolby Digital
Terminals Rear		INPUT 1	SCART (AV in, RGB in, TV out), HDMI in *1
		INPUT 2	SCART (AV in/out, S-VIDEO in, AV link *2), Component Video in, AUDIO in
		INPUT 3	SCART (AV in/out, S-VIDEO in, RGB in, AV link*2), HDMI in*1
		INPUT 4	HDMI in*1
		CONTROL OUT	1
		SPEAKERS	6 Ω to 16 Ω
		Antenna	75 Ω Din Type for VHF/UHF in
		PC INPUT	Analogue RGB in, Audio in
		AUDIO OUT	AUDIO out (Fixed)
		SUB WOOFER	Variable
		DIGITAL OUT	Digital audio output (Optical)
		COMMON INTERFACE	CA Module
	Side	INPUT 5	S-VIDEO, AV in
		USB	USB in*3
		PHONES	16 Ω to 32 Ω recommended

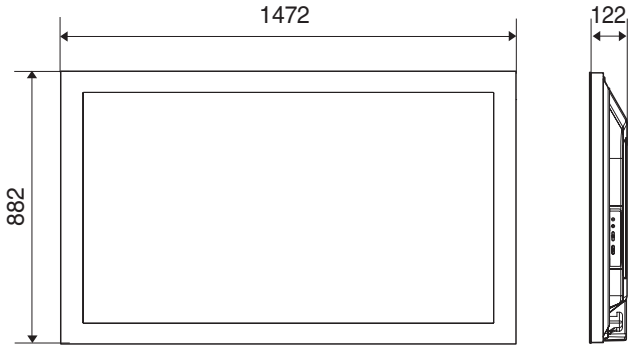
*1 This conforms to HDMI1.3 and HDCP1.1. HDMI (High Definition Multimedia Interface) is a digital interface that handles both video and audio using a single cable. HDCP (High-bandwidth Digital Content Protection) is a technology used to protect copyrighted digital contents that use the Digital Visual Interface (DVI).

*2 Switchable from menu.

*3 This conforms to USB 1.1 and 2.0 specifications.

Design and specifications are subject to change without notice.

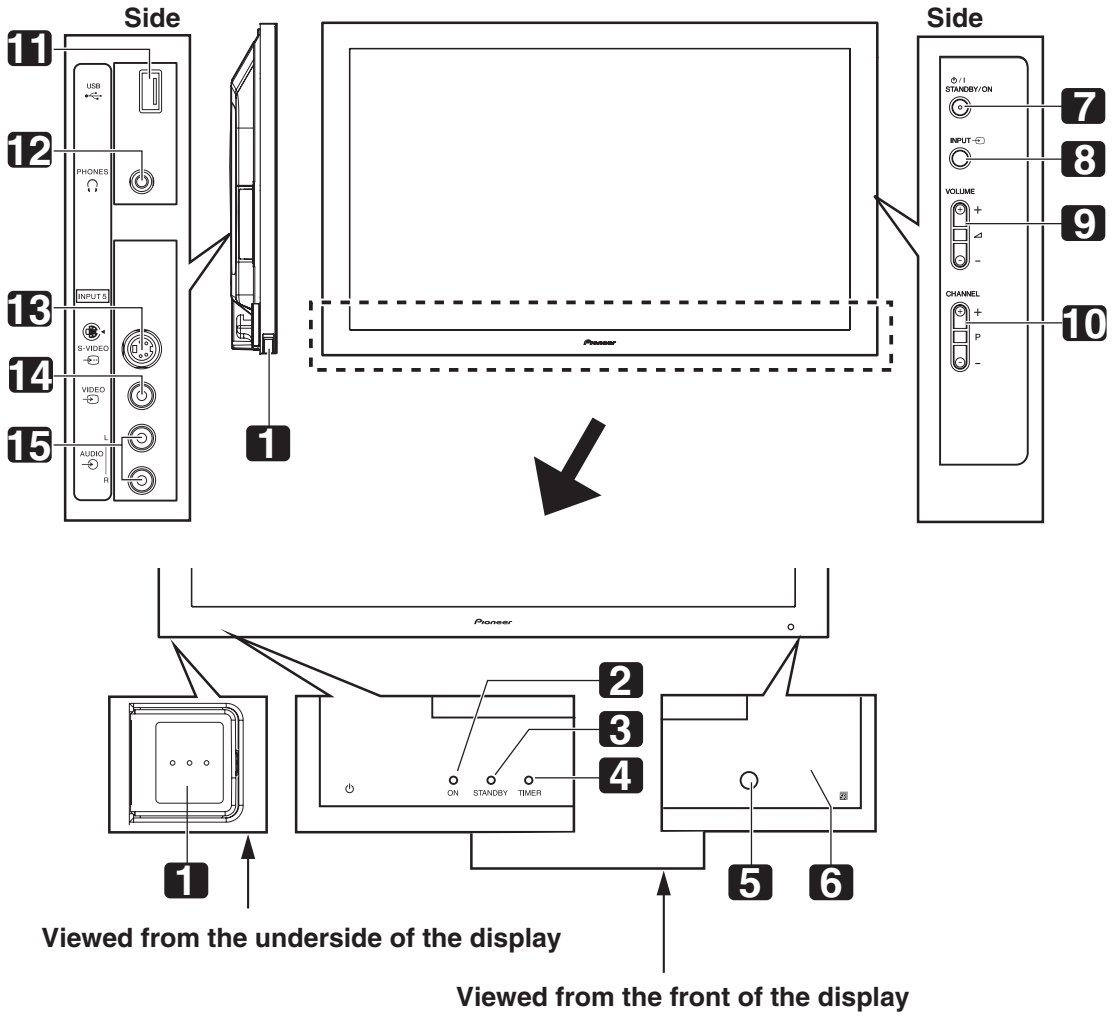
■ Dimensions



Unit: mm

2.3 PANEL FACILITIES

■ Front Section



1 ⏻ button (This button is located on the bottom of the side panel of the plasma television.
If the button is off, the power will not turn on even when ⏻, **0** to **9** on the remote control unit or **STANDBY/ON** on the plasma television is pressed. To turn on the power, press ⏻. (You can aslo slide ⏻ up).

2 POWER ON indicator

3 STANDBY indicator

4 TIMER indicator
- The TIMER indicator lights up when one or more DTV programmes are preset for watching or recording.

5 Room Light Sensor

6 Remote control sensor

7 **STANDBY/ON** button

8 **INPUT** button

9 **VOLUME +/–** buttons

10 **CHANNEL +/–** buttons

11 USB port

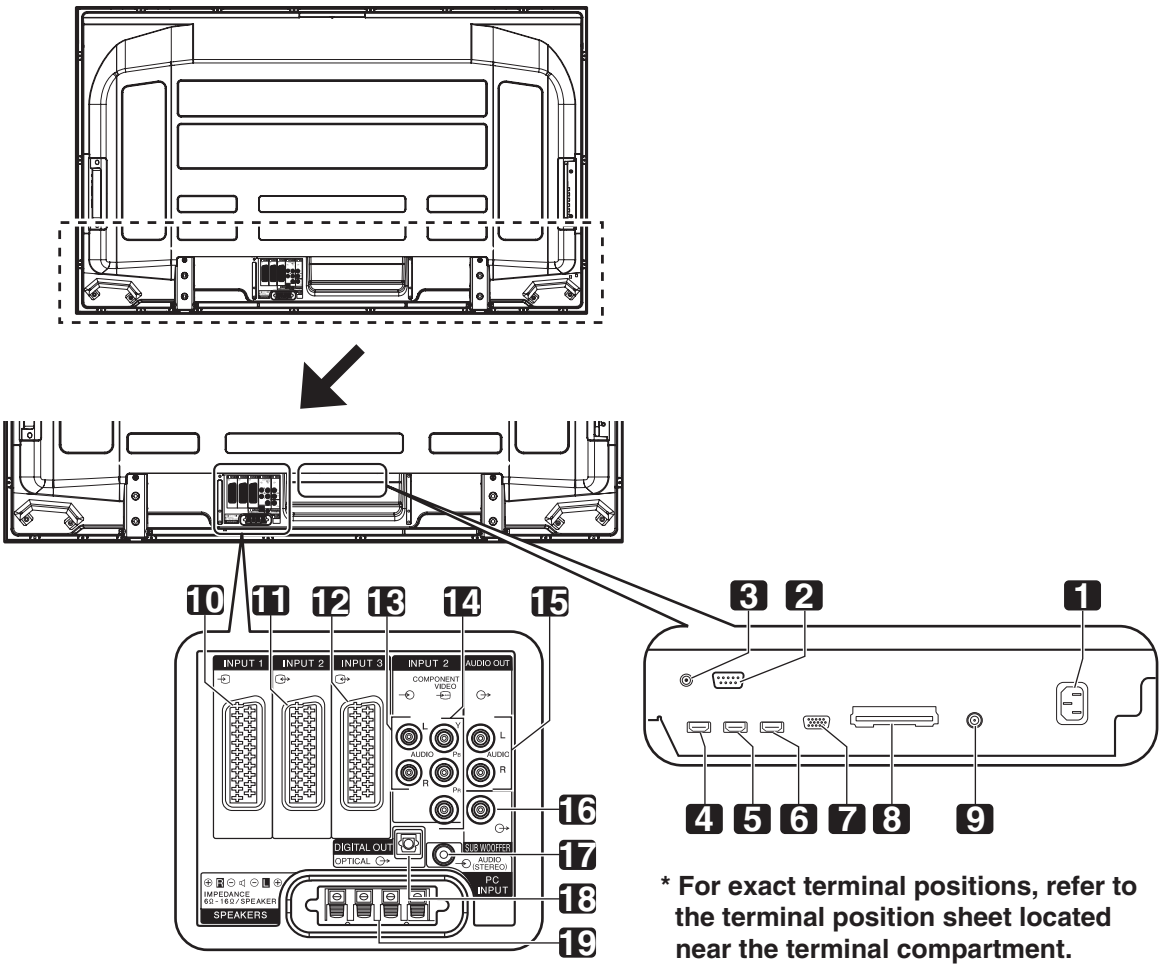
12 PHONES output terminal

13 INPUT 5 terminal (S-VIDEO)

14 INPUT 5 terminal (VIDEO)

15 INPUT 5 terminals (AUDIO)

■ Rear Section



*** For exact terminal positions, refer to the terminal position sheet located near the terminal compartment.**

1 AC IN terminal

2 RS-232C terminal (used for factory setup)

3 CONTROL OUT terminal (supports **SR+**)

4 INPUT 1 terminal (HDMI)

5 INPUT 3 terminal (HDMI)

6 INPUT 4 terminal (HDMI)

7 PC INPUT terminal (Analogue RGB)

8 COMMON INTERFACE slot
- For a CA Module with a smart card

9 ANT (Antenna) input terminal
- Power can be supplied through this terminal

10 INPUT 1 terminal (SCART)

11 INPUT 2 terminal (SCART)

12 INPUT 3 terminal (SCART)

13 INPUT 2 terminals (Audio)

15 AUDIO OUT terminals

14 INPUT 2 terminals (COMPONENT VIDEO: Y, P_B, P_R)

16 SUBWOOFER output terminal

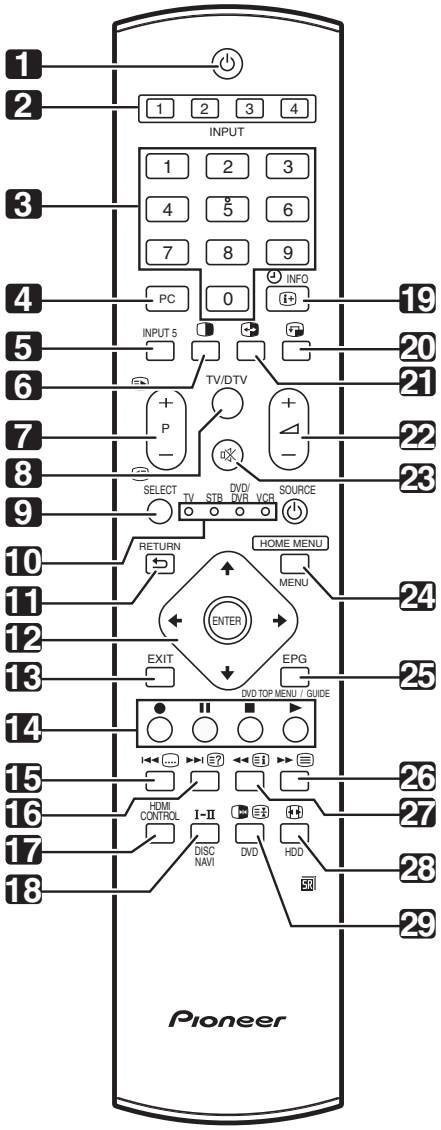
17 PC INPUT terminal (Audio)

18 DIGITAL OUT terminal (OPTICAL)

19 SPEAKERS terminals (right/left)

■ Remote Control Unit

This section describes the functions of the buttons available when the mode switch has been set to TV.



1 ⏻**:** Turns on the power to the plasma television or places it into the standby mode.

2 **INPUT:** Selects an input source of the plasma television. ("INPUT 1", "INPUT 2", "INPUT 3", "INPUT 4")

3 **0 to 9:** TV/External input mode: Selects a channel.
Teletext mode: Selects a page.
Turns the power on when the STANDBY indicator lights red.

4 **PC:** Selects the PC terminal as an input source.

5 **INPUT 5:** Selects INPUT 5 as the input source of the plasma television.

6 **:**Switches the screen mode among 2-screen, picture-in-picture, and single-screen.

7 **P+/P–:** TV/External input mode: Selects a channel.

/ : Teletext mode: Selects a page.

8 **TV/DTV:** Switches between the TV and DTV input modes.

9 **SELECT:** Switches the selection among TV, STB, DVD/DVR, and VCR, so that you can control other connected equipment, using the supplied remote control unit.

10 **TV, STB, DVD/DVR, VCR:** These indicators show the current selection and status when you control other connected equipment, using the supplied remote control unit.

11 **RETURN:** Restores the previous menu screen.

12 **:**Selects a desired item on the setting screen.

ENTER: Executes a command.

13 **EXIT:** Returns to the normal screen in one step.

14 **Colour (RED/GREEN/YELLOW/BLUE):**
Teletext mode: Selects a page.

15 **:** Jumps to Teletext subtitle page.
Turns subtitle on and off in DTV input mode depending on the broadcast.

16 **:** Displays hidden characters.

17 **HDMI CONTROL:** Displays the HDMI Control menu.

18 **I–II:** Sets the sound multiplex mode.

19 **INFO:** Displays the channel information.
Displays the banner information in DTV input mode.

20 **:** Moves the location of the small screen when in the picture-in-picture mode.

21 **:** Switches between the two screens when in the 2-screen or picture-in-picture mode.

22 **+/–:** Sets the volume.

23 **:** Mutes the sound.

24 **HOME MENU:** Displays the HOME MENU screen.

25 **EPG:** Displays the Electronic Programme Guide in DTV input mode.

26 **:** Selects the Teletext mode (all TV image, all TEXT image, TV/TEXT image).

27 **:** Displays an Index page for the CEEFAX/FLOF format.
Displays a TOP Over View page for the TOP format.

28 **:** Selects the screen size.

29 **:** TV/External input mode: Freezes a frame from a moving image. Press again to cancel the function.

: Teletext mode: Stops updating Teletext pages. Press again to release the hold mode.

Note

- When using the remote control unit, point it at the plasma television.

3. BASIC ITEMS FOR SERVICE
3.1 CHECK POINTS AFTER SERVICING

Items to be checked after repair (PDP)

To ensure the quality of the product after repair, check the recommended items shown below:

No.	Procedures	Item to be checked
1	Check if all the symptoms pointed out by the customer have been addressed.	The symptoms in question must not be reproduced.
2	Connect the peripheral equipment.	Connect all external peripheral equipment as originally connected and check if the connections are correct.
3	Check the video and audio.	Tune in to the stations that the customer would normally receive and check if video and audio are normal.
4	Check the buttons and controls.	Use the buttons and controls on the remote control unit and main unit and check if they operate properly.
5	Check the cabinet.	Check for any scratches or dirt that have been made or attached on the cabinet after receiving the product for repair.

See the table below for the items to be checked regarding video and audio:

Item to be checked regarding video	Item to be checked regarding audio
Block noise	Distortion
Horizontal noise	Noise
Dot noise	Volume too low
Disturbed image (video jumpiness)	Volume too high
Too dark	Volume fluctuating
Too bright	Sound interrupted
Mottled color	

3.2 QUICK REFERENCE

Quick Reference upon Service Visit ①
Notes, PD/SD diagnosis, and methods for various settings

Notes when visiting for service

1. Notes when disassembling/reassembling

① **Rear case**
When reassembling the rear case, the screws must be tightened in a specific order. Be careful not to tighten them in the wrong order forcibly. For details, see "Rear Case" in "7. DISASSEMBLY".

② **Attaching screws for the HDMI connector**
When attaching the HDMI connector after replacing the Main Assy, secure the HDMI connector manually with a screwdriver, but not with an electric screwdriver. If you tighten the screws too tightly with an electric screwdriver, the screw heads may be damaged, in which case the screws cannot be untightened/tightened any more.

2. On parts replacement

① **How to discharge before replacing the Assys**
A charge of significant voltage remains in the Plasma Panel even after the power is turned off. Safely discharge the panel before replacement of parts, in either manner indicated below:
A: Let the panel sit at least for 3 minutes after the power is turned off.
B: Turn the Large Signal System off before the power is turned off then, after 1 minute, turn the power off.
For details, see "5.6.1 PANEL DRIVE-POWER ON/OFF FUNCTION".

② **On the settings after replacement of the Assys**
Some boards need settings made after replacement of the Assys. For details, see "8. EACH SETTING AND ADJUSTMENT".

3. On various settings

① **Setting in Factory mode**
After a Mask indication into the panel is performed, be sure to set the Mask setting to "OFF" then exit Factory mode.

PD/SD

	Item	No. of LEDs flashing Red	Blue
Panel section	SQ_LSI		Blue 1
	Communication with the module IIC		Blue 2
	DIGITAL-RST2		Blue 3
	Panel high temperature		Blue 4
MTB section	Audio/ Short-circuit SP terminal		Blue 5
	Communication with the Module UCOM		Blue 6
	Main 3-wire serial communication		Blue 7
	Main IIC communication		Blue 8
	Communication with the Main UCOM		Blue 9
	FAN		Blue 10
	Unit high temperature		Blue 11
	Digital Tuner communication		Blue 12
	MTB-RST2/RST4		Blue 13
	Main EEPROM		Blue 15
POWER		Red 2	
SCAN		Red 3	
SCN-5V		Red 4	
Y-DRIVE		Red 5	
Y-DCDC		Red 6	
Y-SUS		Red 7	
ADRS		Red 8	
X-DRIVE		Red 9	
X-DCDC		Red 10	
X-SUS		Red 11	
DIG-DCDC		Red 12	
UNKNOWN		Red 15	

LED Display Information

① Rewriting software

② PD (2-15)

③ SD (1-15)

④ No backup

This indication does not display all LED patterns.
For details, please refer to 5.1.1 LED DISPLAY INFORMATION.

How to locate several items on the Factory menu

{ } : Item on the Factory menu
[ ] : Key on the remote control unit
" " : Screen indication

1. Confirmation of accumulated power-on time and power-on count
Select {INFORMATION} then {HOUR METER}.
(After entering Factory mode, press [⬇] five times.)

2. Confirmation of the Power-down and Shutdown histories

① **Panel system**
PD: Select {PANEL FACTORY} then {POWER DOWN}.
(After entering Factory mode, press [MUTING] once, press [ENTER/SET], then press [⬇] three times.)
SD: Select {PANEL FACTORY} then {SHUT DOWN}.
(After entering Factory mode, press [MUTING] once, press [ENTER/SET], then press [⬇] four times.)

② **MTB section**
Select {INFORMATION} then {MAIN NG}.
(After entering Factory mode, press [⬇] three times.)

3. How to display the Mask indication

① **Mask indication in the panel side**
1. Select {PANEL FACTORY} then {RASTER MASK SETUP}.
(After entering Factory mode, press [MUTING] once, press [ENTER/SET], then press [⬇] 8 times.)
2. Press [ENTER/SET], then select a Mask indication, using [⬇] or [⬆].

Adjustments and Settings after replacement of the Assys (Procedures in Factory mode)

1. Digital Video Assy: Transfer of backup data
① Select {PANEL FACTORY}, {ETC}, then {BACKUP DATA}. (After entering Factory mode, press [MUTING] once, press [ENTER/SET], press [⬇] seven times, then press [ENTER/SET].)
② Select {TRANSFER}, using [➡], then hold [ENTER/SET] pressed for at least 5 seconds.
③ After transfer of backup data is completed, {ETC} is automatically selected, and the LED on the front panel returns to normal lighting.

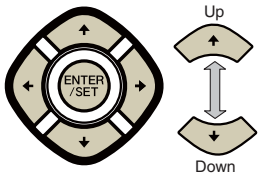
2. MAIN Assy: Execution of FINAL SETUP.
① Select {INITIALIZE} then {FINAL SETUP}, then press [ENTER/SET]. (After entering Factory mode, press [MUTING] three times, then press [⬇] four times.)
② Select "YES", using [➡]. Then hold [ENTER/SET] pressed for at least 5 seconds.
③ After "FINAL SETUP IS COMPLETE" is displayed on the screen, turn the POWER switch of the main unit off.

3. POWER SUPPLY Unit: Clearance of the accumulated power-on count and maximum temperature value
① Select {PANEL FACTORY}, {ETC}, then {P COUNT INFO}. (After entering Factory mode, press [MUTING] once, press [ENTER/SET], press [⬇] seven times, press [ENTER/SET], then press [⬇] six times.)
② Press [➡] to select "CLEAR". Hold [ENTER/SET] pressed for at least 5 seconds. After clearance is completed, "ETC" is automatically selected. Clear the maximum temperature value (MAX TEMP) in the same manner.

4. Other Assys: Clearance of the maximum temperature value
① Select {PANEL FACTORY}, {ETC}, then {MAX TEMP}. (After entering Factory mode, press [MUTING] once, press [ENTER/SET], press [⬇] seven times, press [ENTER/SET], then press [⬇] seven times.)
② Press [➡] to select "CLEAR". Hold [ENTER/SET] pressed for at least 5 seconds. After clearance is completed, "ETC" is automatically selected.

Quick Reference upon Service Visit ②
Mode transition and structure of layers in Service Factory mode

Mode transition in Service Factory mode



- To shift to another mode, press [MUTING].
- To shift to another item in a specific mode, press [⬆] or [⬇].
- To shift to the next nested layer below for an item with a "(+)" indication, press [ENTER/SET]. To return to the next nested layer above, also press [ENTER/SET].

INFORMATION mode
1. VERSION (1)
2. VERSION (2)
3. MAIN NG
4. TEMPERATURE
5. HOUR METER
6. HDMI SIGNAL INFO1
7. HDMI SIGNAL INFO2
8. VDEC SIGNAL INFO1
9. VDEC SIGNAL INFO2

MUTING

INITIALIZE mode
1. SIDE MASK LEVEL
2. FINAL SETUP
3. Wide XGA AUTO

MUTING

PANEL FACTORY mode
1. PANEL INFORMATION
2. PANEL WORKS
3. POWER DOWN
4. SHUT DOWN
5. PANEL-1 ADJ
6. PANEL-2 ADJ
7. PANEL FUNCTION
8. ETC.
9. RASTER MASK SETUP
10. PATTEN MASK SETUP
11. COMBI MASK SETUP

MUTING

OPTION mode
1. EDID WRITE MODE
2. CH PRESET
3. SYNC DET

MUTING

Structure of Layers in Service Factory Mode

INFORMATION mode	
├ 1. VERSION (1)	The software versions for each microcomputer
├ 2. VERSION (2)	The Flash memory versions for each device
├ 3. MAIN NG	The shutdown message ID/event times
│	(Going Clear mode by [ENTER/SET] key)
│ └ 3-1. CLEAR	Select Yes by [➡] key, ➡ pressing and hold [ENTER/SET] key
├ 4. TEMPERATURE	The temperature/FAN rotating status/Room light sensor
├ 5. HOUR METER	The HOUR METER/P-COUNT information
├ 6. HDMI SIGNAL INFO 1	The information of HDMI information files
├ 7. HDMI SIGNAL INFO 2	The information of HDMI information files
├ 8. VDEC SIGNAL INFO 1	The signal information of VDEC
├ 9. VDEC SIGNAL INFO 2	The signal information of VDEC
PANEL FACTORY mode	Refer to [PANEL FACTORY MODE]
OPTION mode	
├ 1. EDID WRITE MODE	For factory use
├ 2. CH PRESET	For production line use
├ 3. SYNC DET	For technical analysis
INITIALIZE mode	
├ 1. SIDE MASK LEVEL	For factory use
│ └ 1-1. SIDE MASK LEVEL	
├ 2. FINAL SETUP	Set to Factory default settings (it should perform after
│ └ 2-1. DATA RESET	replacing a MAIN Assy)
└ 3. Wide XGA AUTO	For technical analysis

Structure of Layers in Panel Factory Mode 1

1. PANEL INFORMATION	Version indication of the panel
2. PANEL WORKS	Indications of the accumulated power-on time, pulse-meter count, and power-on count of the panel
3. POWER DOWN	Indication of the Power-down history
4. SHUT DOWN	Indication of the Shutdown history
5. PANEL-1 ADJ (+)	
├ 1. VOL SUS	Settings required after replacement of the panel
├ 2. VOL OFFSET	
├ • • • • •	
├ 8. VOL YNOFS4	
├ 9. RESET1ST_KSB	Modification not required because these items are basically for factory presetting
├ 10. RESET2ND_KSB	
├ • • • • •	
├ 23. YSTL_FMR_HZ	
├ 24. SUS FREQ	For AM noise prevention (Depending on the mode, brightness of the screen changes.) For confirmation of the result of the setting change, the unit must be turned off then back on again.
6. PANEL-2 ADJ (+)	
├ 1. R-HIGH	Parameters for the WB adjustment of the panel, which are required during adjustment after panel replacement
├ 2. G-HIGH	
├ 3 .B-HIGH	
├ 4. R-LOW	
├ 5. G-LOW	
├ 6. B-LOW	
├ 7. ABL	Setting of the power consumption. A setting table is available for each vertical signal.

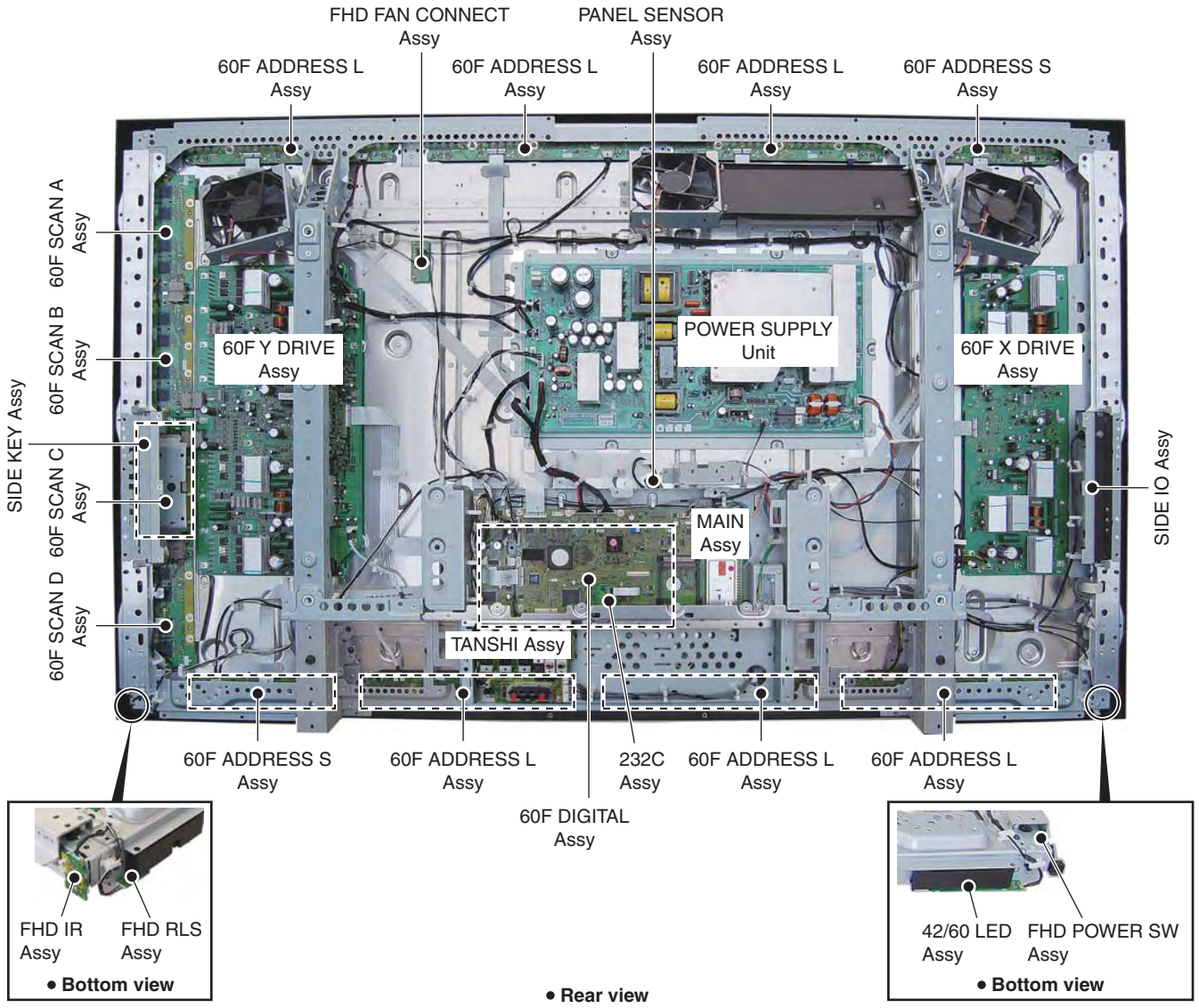
To "Structure of Layers in Panel Factory Mode 2"

Structure of Layers in Panel Factory Mode 2

7. PANEL FUNCTION (+)	
├ 1. R-LEVEL	Items for use by engineers
├ 2. G-LEVEL	
├ 3. B-LEVEL	
├ 4. ADDRESS L1	
├ 5. ADDRESS L2	
├ • • • • •	
├ 11. ADDRESS U4	
├ 12. STK MODE	
8. ETC (+)	
├ 1. BACKUP DATA	For transferring backup data (after replacement of the DIGITAL Assy)
├ 2. DIGITAL EEPROM	To clear data of the digital video
├ 3. PD INFO.	For clearance of data for the corresponding items. The clearing method is the same: Select "CLEAR", using [➡], then hold [ENTER/SET] pressed for at least 5 seconds. After clearance is completed, {ETC} is automatically selected.
├ 4. SD INFO.	
├ 5. HR-MTR INFO.	
├ 6. PM/B1-B5	
├ 7. P COUNT INFO.	
├ 8. MAX TEMP.	
9. RASTER MASK SETUP (+)	
├ 1. MASK OFF	For use while Raster Mask (full mask) is displayed. Use [⬆] or [⬇] to select the type of mask.
├ 2. RST MASK 01	
≈ • • • • •	
├ 26. RST MASK 25	
10. PATTEN MASK SETUP (+)	
├ 1. MASK OFF	For use while Pattern Mask is displayed. Use [⬆] or [⬇] to select the type of mask.
├ 2. PTN MASK 01	
≈ • • • • •	
├ 50. PTN MASK 49	
11. COMBI MASK SETUP (+)	
├ 1. MASK OFF	For use while Combination Mask is displayed. Use [⬆] or [⬇] to select the type of mask.
├ 2. CMB MASK 01	
≈ • • • • •	
├ 18. CMB MASK 17	

3.3 PCB LOCATION

Note:
The wiring shown in the photo is different from the actual wiring, because the product in the photo is a prototype.
Upon servicing, be sure to restore the original wiring of the unit after repair work.



LIST OF ASSEMBLIES

Mark	No.	Description	Part No.
NSP		60F ADDRESS L ASSY	AWW1317
NSP		60F ADDRESS S ASSY	AWW1318
NSP		60F SCAN A ASSY	AWW1319
		└ IC2801 - IC2804	SN755871PZT-P
NSP		60F SCAN B ASSY	AWW1320
		└ IC2901 - IC2904	SN755871PZT-P
NSP		60F SCAN C ASSY	AWW1321
		└ IC3001 - IC3004	SN755871PZT-P
NSP		60F SCAN D ASSY	AWW1322
		└ IC3101 - IC3104	SN755871PZT-P
		60F X DRIVE ASSY	AWV2505
		60F Y DRIVE ASSY	AWV2506
		PANEL SENSOR ASSY	AWW1309
		60F DIGITAL ASSY	AWW1308

Mark	No.	Description	Part No.
		MAIN ASSY	AWV2464
		SIDE IO ASSY	AWW1253
		SIDE KEY ASSY	AWW1286
		TANSHI ASSY	AWW1331
		FHD IR ASSY	AWW1289
		FHD FAN CONNECT ASSY	AWW1290
		232C ASSY	AWW1254
		42/60LED ASSY	AWW1276
		FHD RLS ASSY	AWW1292
		FHD POWER SW ASSY	AWW1293
⚠		POWER SUPPLY UNIT	AXY1169
		PDP SERVICE ASSY 608F (for PDP-LX6080D/WYVI5)	AWU1274
		PDP SERVICE ASSY 608FE (for PDP-LX608D/WYVI5)	AWU1275

3.4 JIGS LIST

Name	Jig No.	Remarks

3.5 CLEANING

Name	Part No.	Remarks
Cleaning liquid	GEM1004	Used to fan cleaning. Refer to “10.5 CHASSIS SECTION (2/3)”.
Cleaning paper	GED-008	

A

B

C

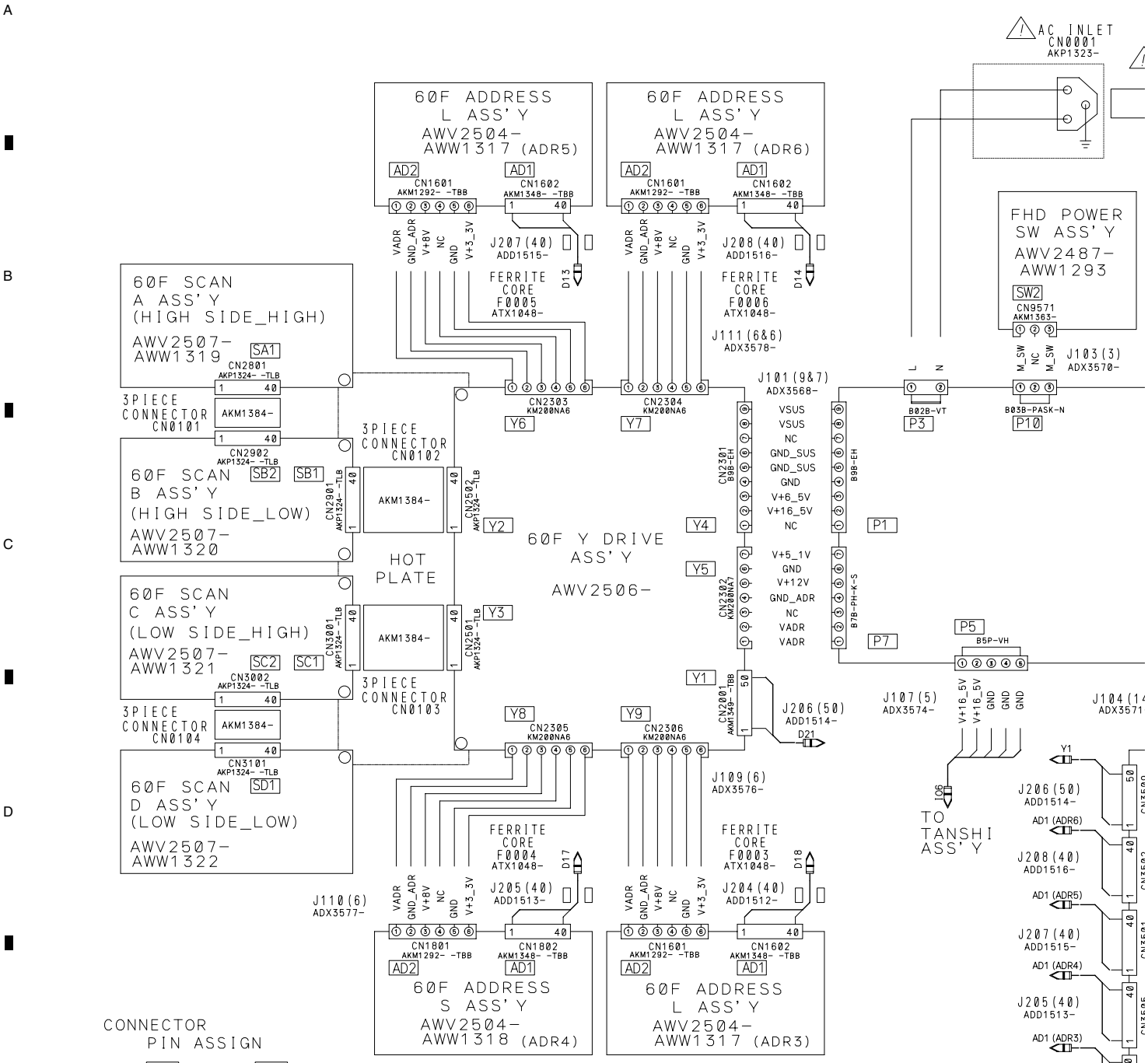
D

E

F

4. BLOCK DIAGRAM

4.1 OVERALL WIRING DIAGRAM (1/2)



CONNECTOR PIN ASSIGN

CN3501 D13	→ CN1602 AD1
CN3502 D14	→ CN1602 AD1
CN3503 D15	→ CN1602 AD1
CN3504 D16	→ CN1802 AD1
CN3505 D17	→ CN1802 AD1
CN3506 D18	→ CN1602 AD1
CN3507 D19	→ CN1602 AD1
CN3508 D20	→ CN1602 AD1

1→40. NC	21→20. CP		
2→39. ADR_PD	22→19. NC		
3→38. PSIZE	23→18. GND_LVDS		
4→37. GND	24→17. NC		
5→36. NC	25→16. CLKN		
6→35. NC	26→15. CLKP		
7→34. GND	27→14. NC		
8→33. GND_LVDS	28→13. GND_LVDS		
9→32. NC	29→12. NC		
10→31. AN	30→11. DN		
11→30. AP	31→10. DP		
12→29. NC	32→ 9. NC		
13→28. GND_LVDS	33→ 8. GND_LVDS		
14→27. NC	34→ 7. GND		
15→26. BN	35→ 6. NC		
16→25. BP	36→ 5. NC		
17→24. NC	37→ 4. GND		
18→23. GND_LVDS	38→ 3. LS1		
19→22. NC	39→ 2. GND		
20→21. CN	40→ 1. GND		

CN2502 Y2 → CN2901 SB1

1. VH	15. NC	29. NC	
2. VH	16. NC	30. GNDH_DIG	
3. NC	17. NC	31. GNDH_DIG	
4. NC	18. NC	32. CLK_H	
5. NC	19. NC	33. LE	
6. NC	20. NC	34. OC1	
7. NC	21. NC	35. OC2_H	
8. NC	22. NC	36. CLR	
9. GNDH_VH	23. NC	37. SI	
10. GNDH_VH	24. NC	38. GNDH_RH	
11. GNDH_VH	25. NC	39. NC	
12. NC	26. NC	40. IC5V	
13. NC	27. NC		
14. NC	28. NC		

CN2902 SB2 → CN2801 SA1

1. VH	15. NC	29. NC	
2. VH	16. NC	30. J_SI	
3. NC	17. NC	31. GNDH_DIG	
4. NC	18. NC	32. CLK_H	
5. NC	19. NC	33. LE	
6. NC	20. NC	34. OC1	
7. NC	21. NC	35. OC2_H	
8. NC	22. NC	36. CLR	
9. GNDH_VH	23. NC	37. SI	
10. GNDH_VH	24. NC	38. GNDH_RH	
11. GNDH_VH	25. NC	39. NC	
12. NC	26. NC	40. IC5V	
13. NC	27. NC		
14. NC	28. NC		

CN2501 Y3 → CN3001 SC1

1. VH	15. NC	29. NC	
2. VH	16. NC	30. GNDH_RL	
3. NC	17. NC	31. GNDH_DIG	
4. NC	18. NC	32. GNDH_DIG	
5. NC	19. NC	33. SI	
6. NC	20. NC	34. CLK_L	
7. NC	21. NC	35. LE	
8. NC	22. NC	36. OC1	
9. GNDH_VH	23. NC	37. OC2_L	
10. GNDH_VH	24. NC	38. CLR	
11. GNDH_VH	25. NC	39. NC	
12. NC	26. NC	40. IC5V	
13. NC	27. NC		
14. NC	28. NC		

CN3002 SC2 → CN3101 SD1

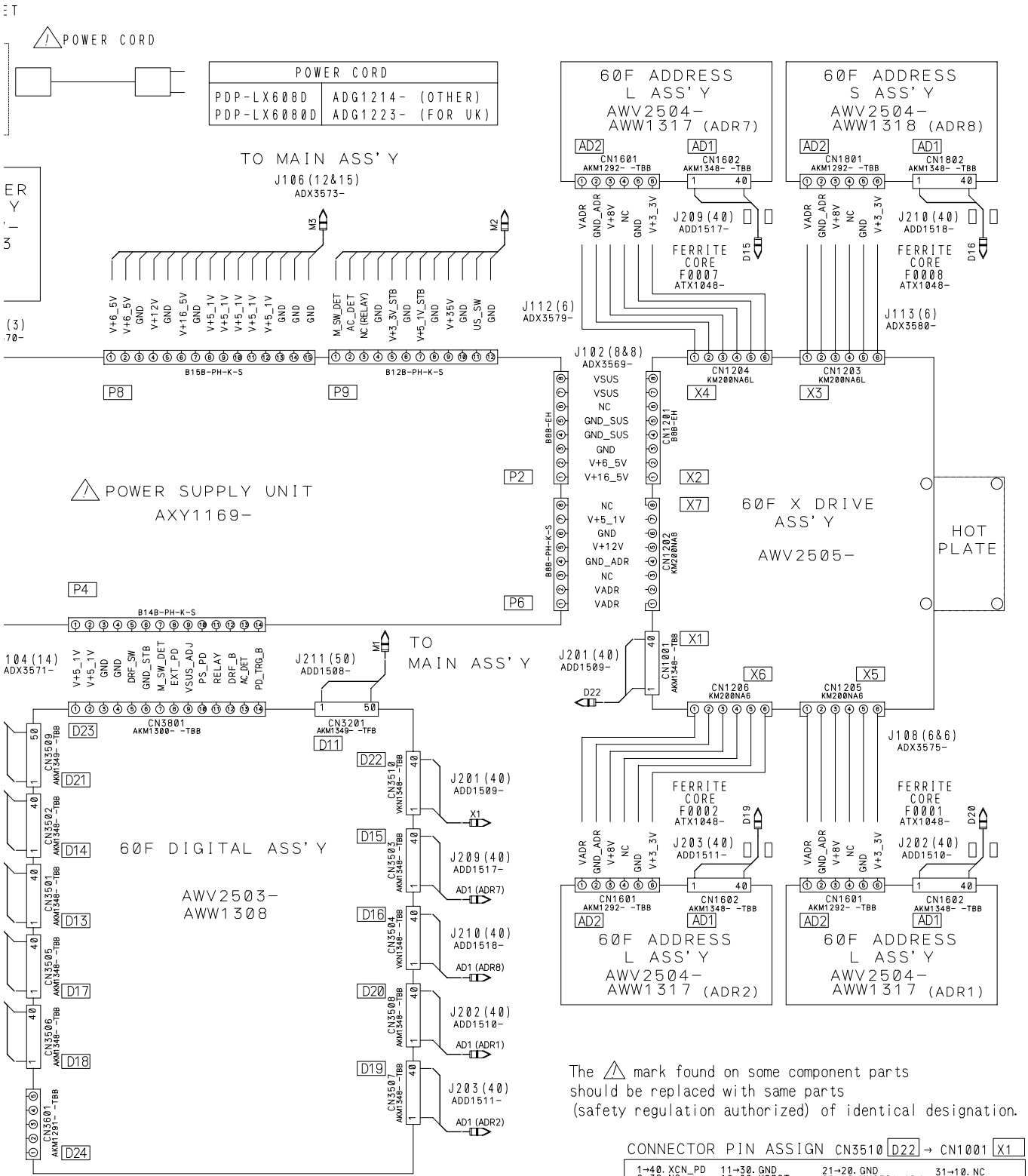
1. VH	15. NC	29. NC	
2. VH	16. NC	30. GNDH_RL	
3. NC	17. NC	31. GNDH_DIG	
4. NC	18. NC	32. SI	
5. NC	19. NC	33. CLK_L	
6. NC	20. NC	34. LE	
7. NC	21. NC	35. OC1	
8. NC	22. NC	36. OC2_L	
9. GNDH_VH	23. NC	37. CLR	
10. GNDH_VH	24. NC	38. J_SI	
11. GNDH_VH	25. NC	39. NC	
12. NC	26. NC	40. IC5V	
13. NC	27. NC		
14. NC	28. NC		

CN3201 D11 → CN4101 M1

1→50. GND	18→33. LVDS_C1-	35→16. GND	
2→49. LVDS_ON	19→32. GND	36→15. LVDS_C0+	
3→48. REQ_MD	20→31. LVDS_B1+	37→14. LVDS_C0-	
4→47. RXD_MD	21→30. LVDS_B1-	38→13. GND	
5→46. TXD_MD	22→29. GND	39→12. LVDS_B0+	
6→45. GND	23→28. LVDS_A1+	40→11. LVDS_B0-	
7→44. GND	24→27. LVDS_A1-	41→10. GND	
8→43. LVDS_E1+	25→26. GND	42→ 9. LVDS_A0+	
9→42. LVDS_E1-	26→25. GND	43→ 8. LVDS_A0-	
10→41. GND	27→24. LVDS_E0+	44→ 7. GND	
11→40. LVDS_D1+	28→23. LVDS_E0-	45→ 6. GND	
12→39. LVDS_D1-	29→22. GND	46→ 5. MSEL	
13→38. GND	30→21. LVDS_D0+	47→ 4. RELAY2	
14→37. LVDS_CLK1+	31→20. LVDS_D0-	48→ 3. V+3_3V_UCOM	
15→36. LVDS_CLK1-	32→19. GND	49→ 2. MODE	
16→35. GND	33→18. LVDS_CLK0+	50→ 1. GND	
17→34. LVDS_C1+	34→17. LVDS_CLK0-		

CN3509 D21

1→50. YCN_P	
2→49. VYPRS	
3→48. SCAN_	
4→47. GND	
5→46. YDD_P	
6→45. YVOFS	
7→44. YSUS_	
8→43. GND	
9→42. YRSV1	
10→41. YRSV2	
11→40. GND	
12→39. YKNOF	
13→38. YKNOF	
14→37. YKNOF	
15→36. YKNOF	
16→35. GND	
17→34. YSOFT	



The ⚠ mark found on some component parts should be replaced with same parts (safety regulation authorized) of identical designation.

09 D21 → CN2001 Y1

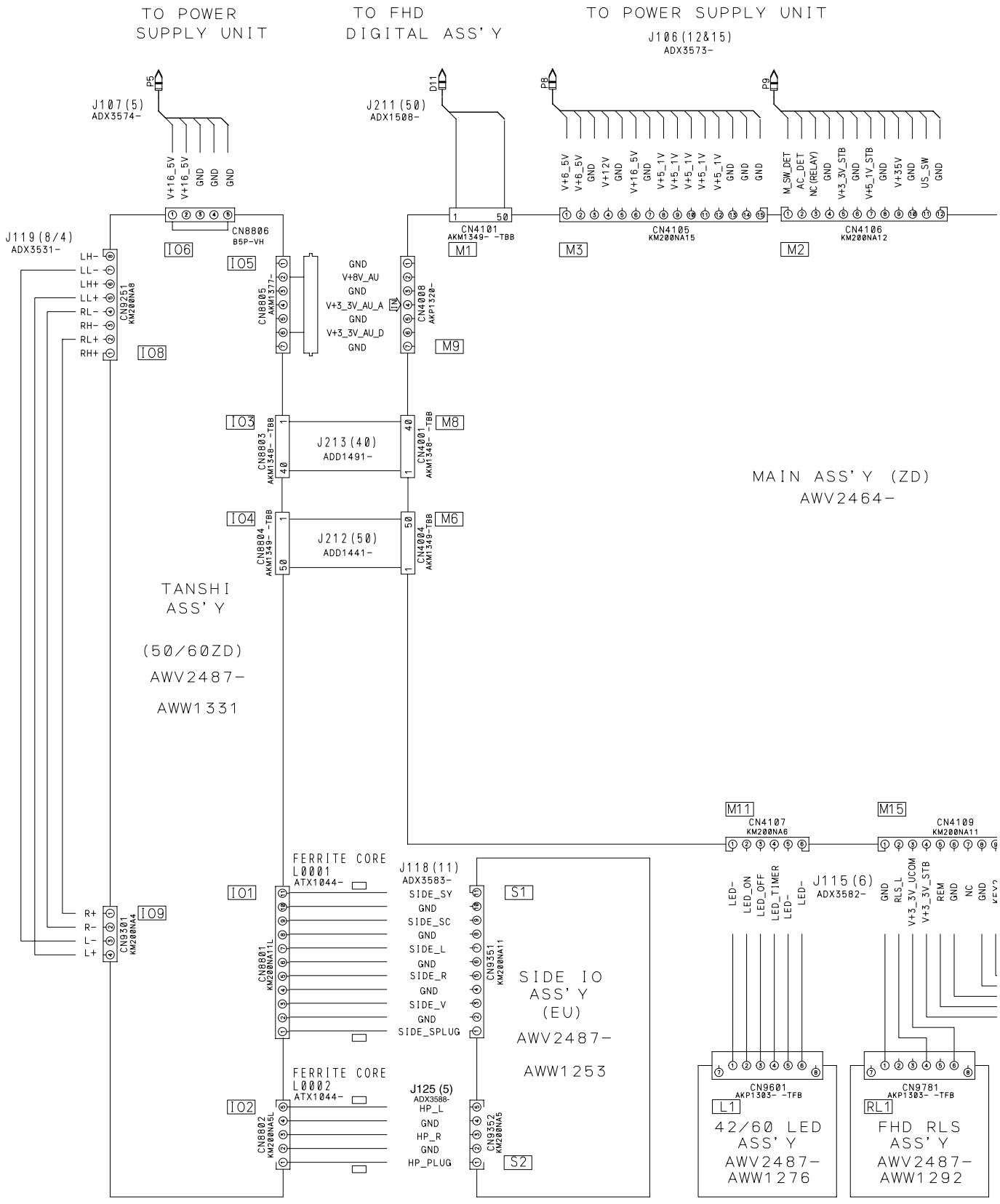
0. YCN_PD	18→33. SUS_MUTE	35→16. OC2_L
9. VYPRST_ADJ	19→32. YSNOFS	36→15. SI
8. SCAN_PD	20→31. GND	37→14. CLK_H
7. GND	21→30. YRST-D	38→13. GND
6. YDD_PD	22→29. YSUS_LMSK	39→12. LE
5. YVOFS_ADJ	23→28. YSUS_HMSK	40→11. OC1
4. YSUS_PD	24→27. GND	41→10. OC2_H
3. GND	25→26. YSUS-D	42→ 9. CLR
2. YRSV1	26→25. YPR-U	43→ 8. GND
1. YRSV2	27→24. YSUS-G	44→ 7. YVKNOFS4_ADJ
0. GND	28→23. GND	45→ 6. YVKNOFS3_ADJ
9. YKNOFS4	29→22. YSUS-U	46→ 5. YVKNOFS1_2_ADJ
8. YKNOFS3	30→21. YRSV3	47→ 4. GND
7. YKNOFS2	31→20. YSUS-B	48→ 3. SCN5V_PD
6. YKNOFS1	32→19. ESW	49→ 2. YDRV_PD
5. GND	33→18. GND	50→ 1. PSW2
4. YSOFT-G	34→17. CLK_L	

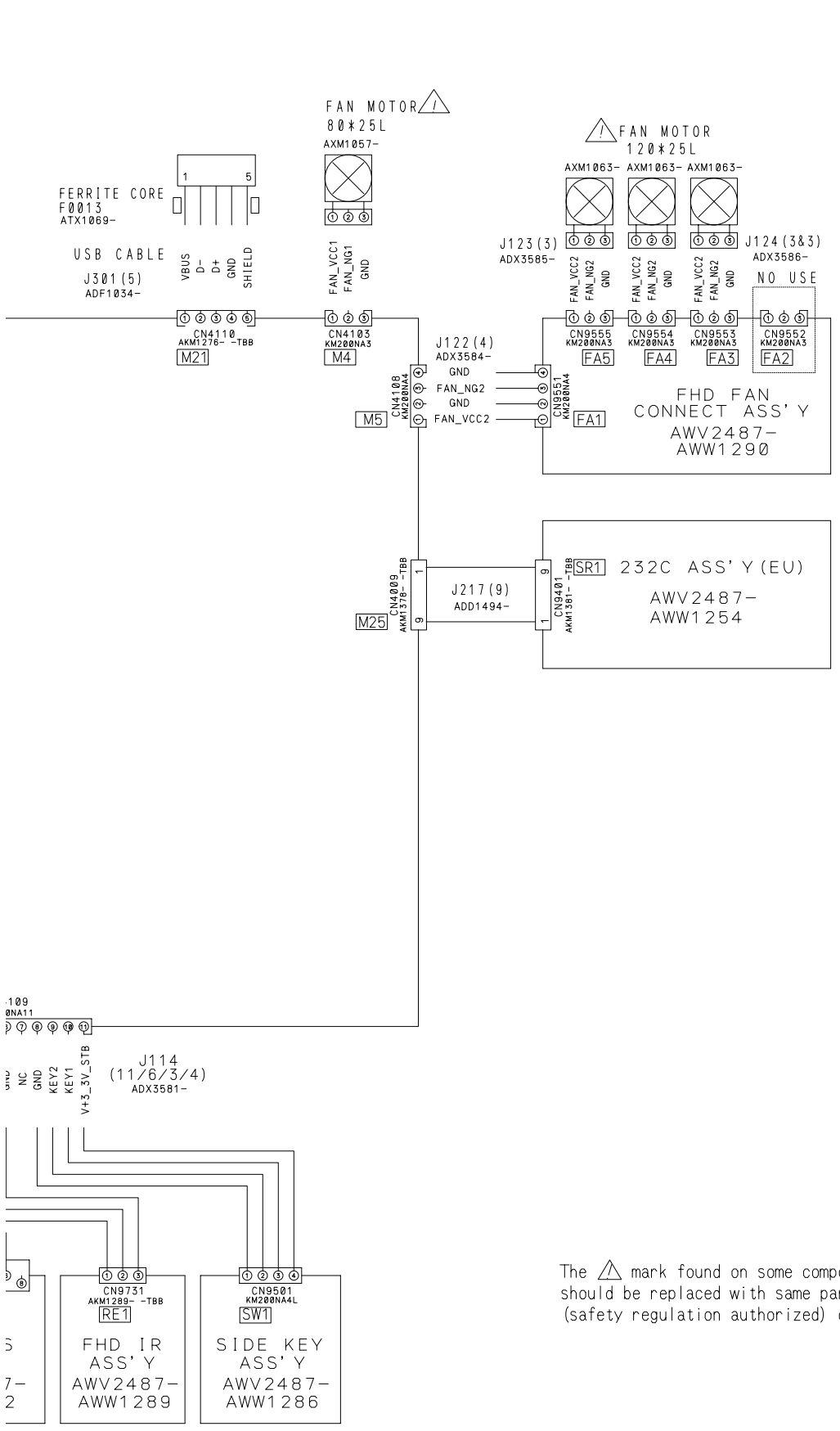
CONNECTOR PIN ASSIGN CN3510 D22 → CN1001 X1

1→40. XCN_PD	11→30. GND	21→20. GND	31→10. NC
2→39. NC	12→29. XPRST	22→19. XKOFS1_ADJ	32→ 9. NC
3→38. GND	13→28. GND	23→18. XKOFS2_ADJ	33→ 8. NC
4→37. XSUS_B	14→27. XKOFS1	24→17. GND	34→ 7. NC
5→36. GND	15→26. GND	25→16. XDRV_PD	35→ 6. NC
6→35. XSUS_U	16→25. XKOFS2	26→15. XDD_PD	36→ 5. NC
7→34. GND	17→24. GND	27→14. PSW2	37→ 4. NC
8→33. XSUS_D	18→23. XSOFT_D	28→13. GND	38→ 3. NC
9→32. GND	19→22. GND	29→12. XRSV1	39→ 2. NC
10→31. XSUS_G	20→21. SUS_MUTE	30→11. XRSV2	40→ 1. XSUS_PD

PDP-LX608D
OVERALL DIAGRAM
PDP-LX608D
PDP-LX6080D

4.2 OVERALL WIRING DIAGRAM (2/2)





CONNECTOR PIN ASSIGN

CN4004 M6 → CN8804 IO4

1→50. GND	26→25. GND
2→49. TEMP2	27→24. INPUT2_Y
3→48. V+3_3V_UCOM	28→23. GND
4→47. SIDE SPLUG	29→22. INPUT2_PB
	30→21. GND
5→46. SIDE_S2	31→20. INPUT2_PR
	32→19. GND
6→45. SIDE_V	33→18. INPUT1_G
	34→17. GND
7→44. GND	35→16. INPUT1_B
8→43. SIDE_SY	36→15. GND
	37→14. INPUT1_R
9→42. GND	38→13. GND
10→41. SIDE_SC	39→12. INPUT3_G
	40→11. GND
11→40. GND	41→10. INPUT3_B
12→39. INPUT1_V	42→ 9. GND
13→38. GND	43→ 8. INPUT3_R
14→37. SCART1_OUT_V	44→ 7. GND
15→36. GND	45→ 6. AIR_R
16→35. SCART2_OUT_V	46→ 5. GND
17→34. SCART3_OUT_V	47→ 4. AIR_L
18→33. GND	48→ 3. GND
19→32. INPUT2_VSY	49→ 2. AIR_SIF
20→31. GND	50→ 1. GND
21→30. INPUT2_SC	
22→29. GND	
23→28. INPUT3_VSY	
24→27. GND	
25→26. INPUT3_SC	

CN4001 M8 → CN8803 IO3

1→40. V+5V_A	21→20. LINK_IO2
2→39. NC	22→19. GND
3→38. V+3_3V_STB	23→18. SPDIF_EMMA(DTB)
4→37. NC	24→17. GND
5→36. GND	25→16. I2S_SDATA_HDMI
6→35. AIR_SIF	26→15. I2S_LRCLK_HDMI
7→34. GND	27→14. I2S_BCLK_HDMI
8→33. RAPID_SW3	28→13. GND
9→32. RAPID_SW1	29→12. I2S_BCLK_EMMA(DTB)
10→31 In2_CompY_PLUG	30→11. I2S_LRCLK_EMMA(DTB)
11→30. SLOW_SW3	31→10. I2S_SDATA_EMMA(DTB)
12→29. SLOW_SW2	32→ 9. GND
13→28. SLOW_SW1	33→ 8. SCL_AV
14→27. HP_PLUG	34→ 7. SDA_AV
15→26. AC_SC3_MUTE	35→ 6. AC_A_MUTE
16→25. AC_SC2_MUTE	36→ 5. RST_MSP
17→24. AC_SC1_MUTE	37→ 4. OTW
18→23. AC_AM_MUTE	38→ 3. A_NG_B
19→22. AC_HP_MUTE	39→ 2. IO_DET
20→21. LINK_IO3	40→ 1. GND

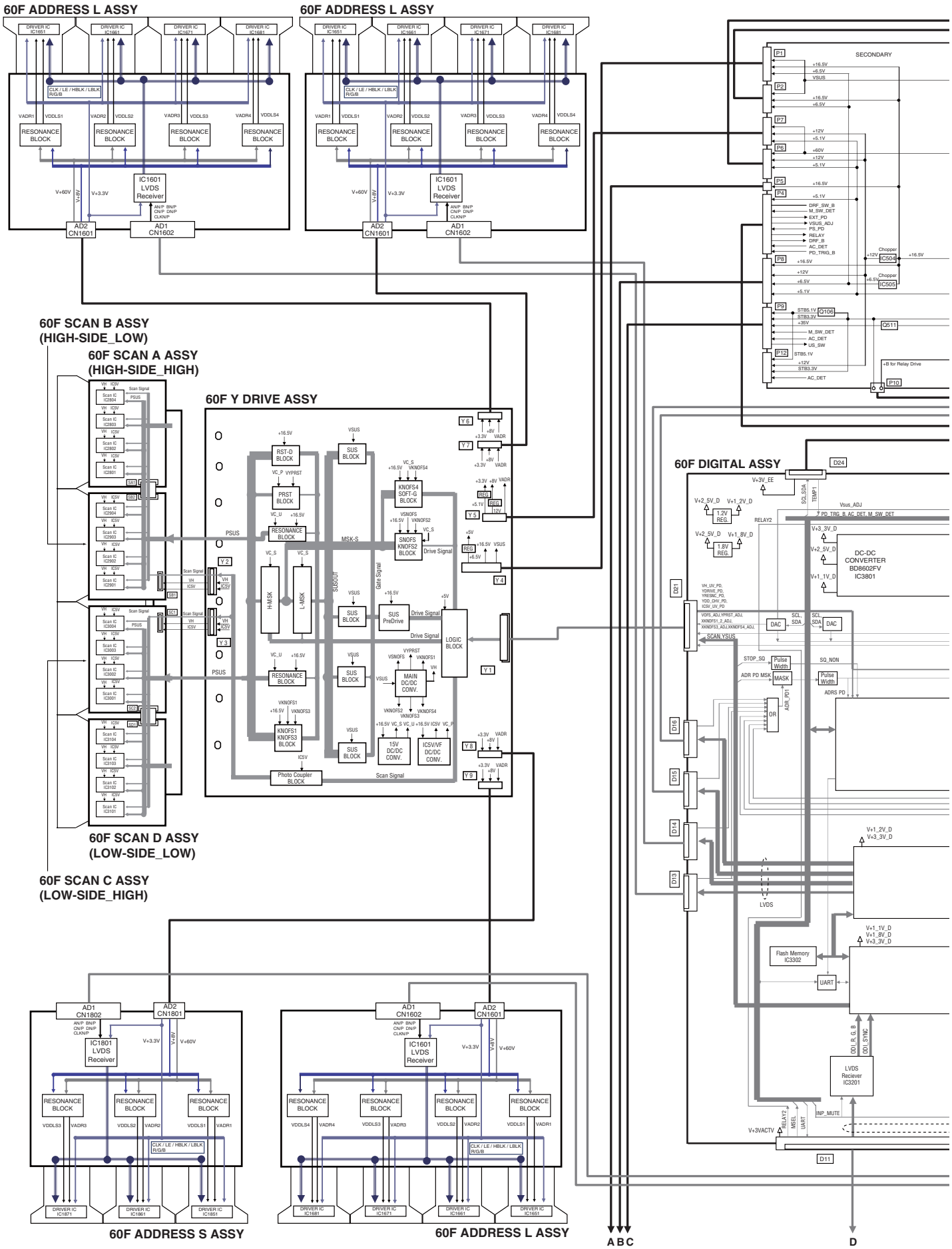
CN4009 M25 → CN9401 SR1

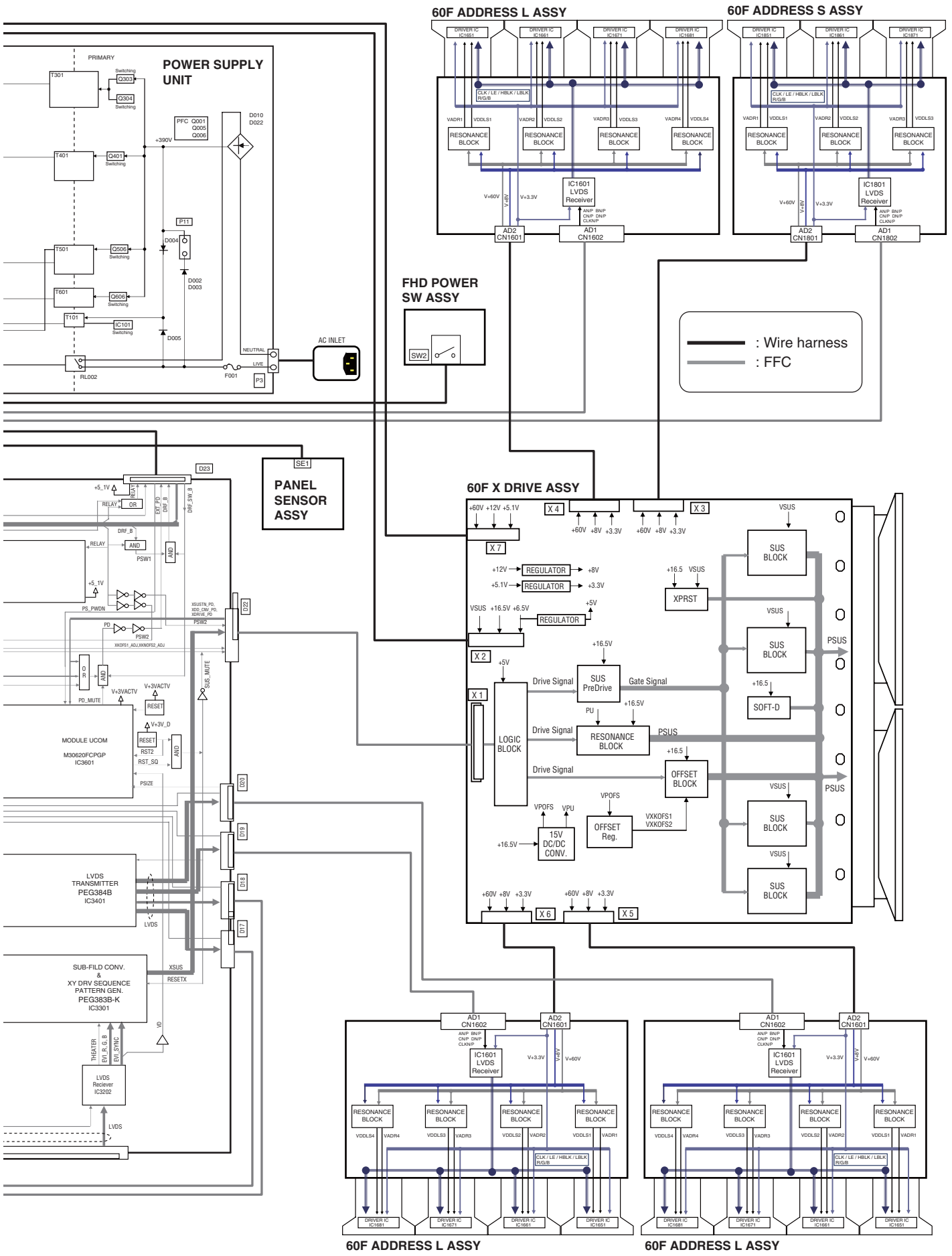
1→9. GND
2→8. SR_OUT
3→7. RXD_SR
4→6. TXD_SR
5→5. 232C_CH2
6→4. 232C_CH3
7→3. 232C_CH4
8→2. 232C_CH8
9→1. GND

The ⚠ mark found on some component parts
should be replaced with same parts
(safety regulation authorized) of identical designation.

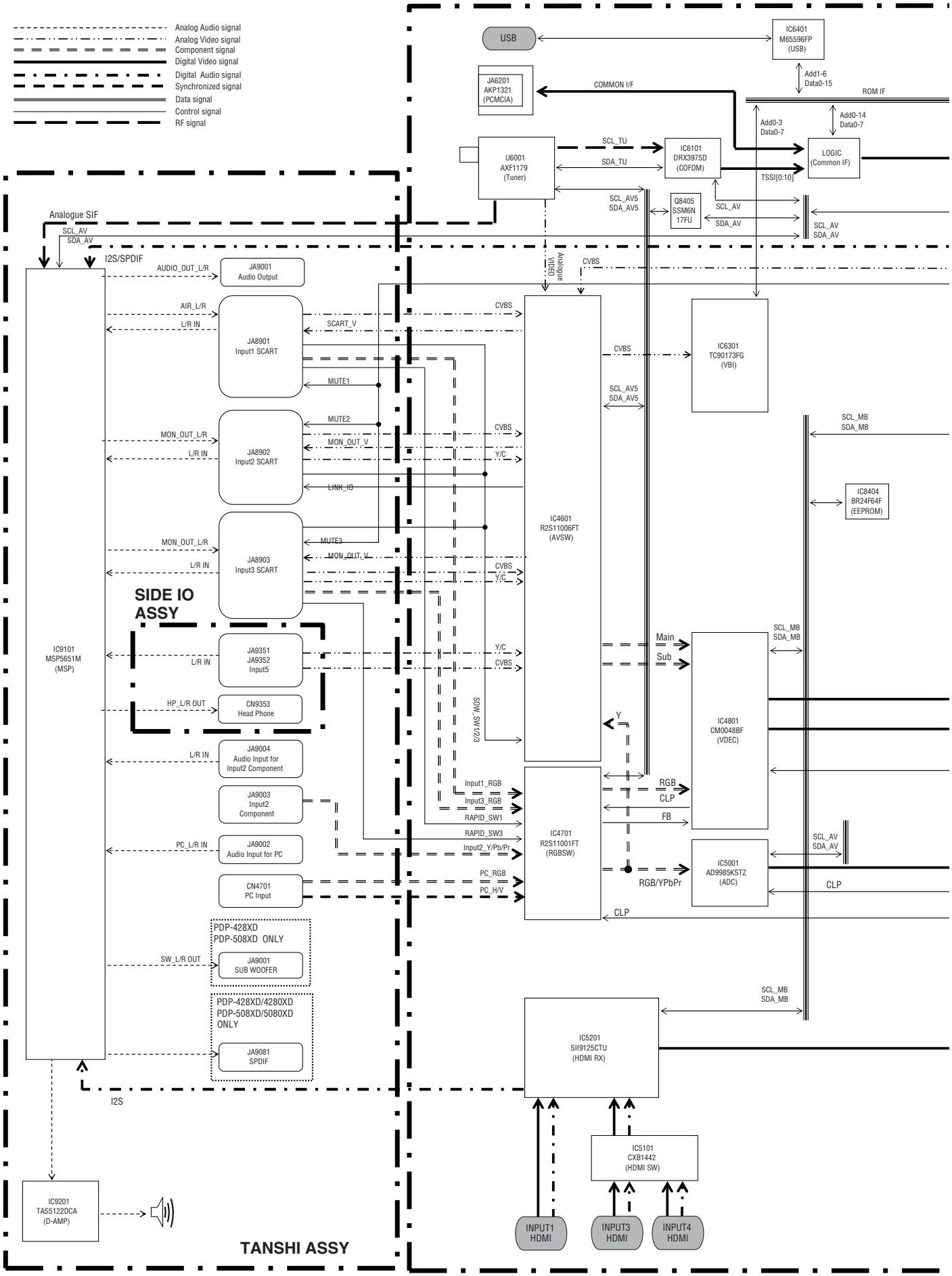
PDP-LX608D
OVERALL DIAGRAM
PDP-LX608D
PDP-LX6080D

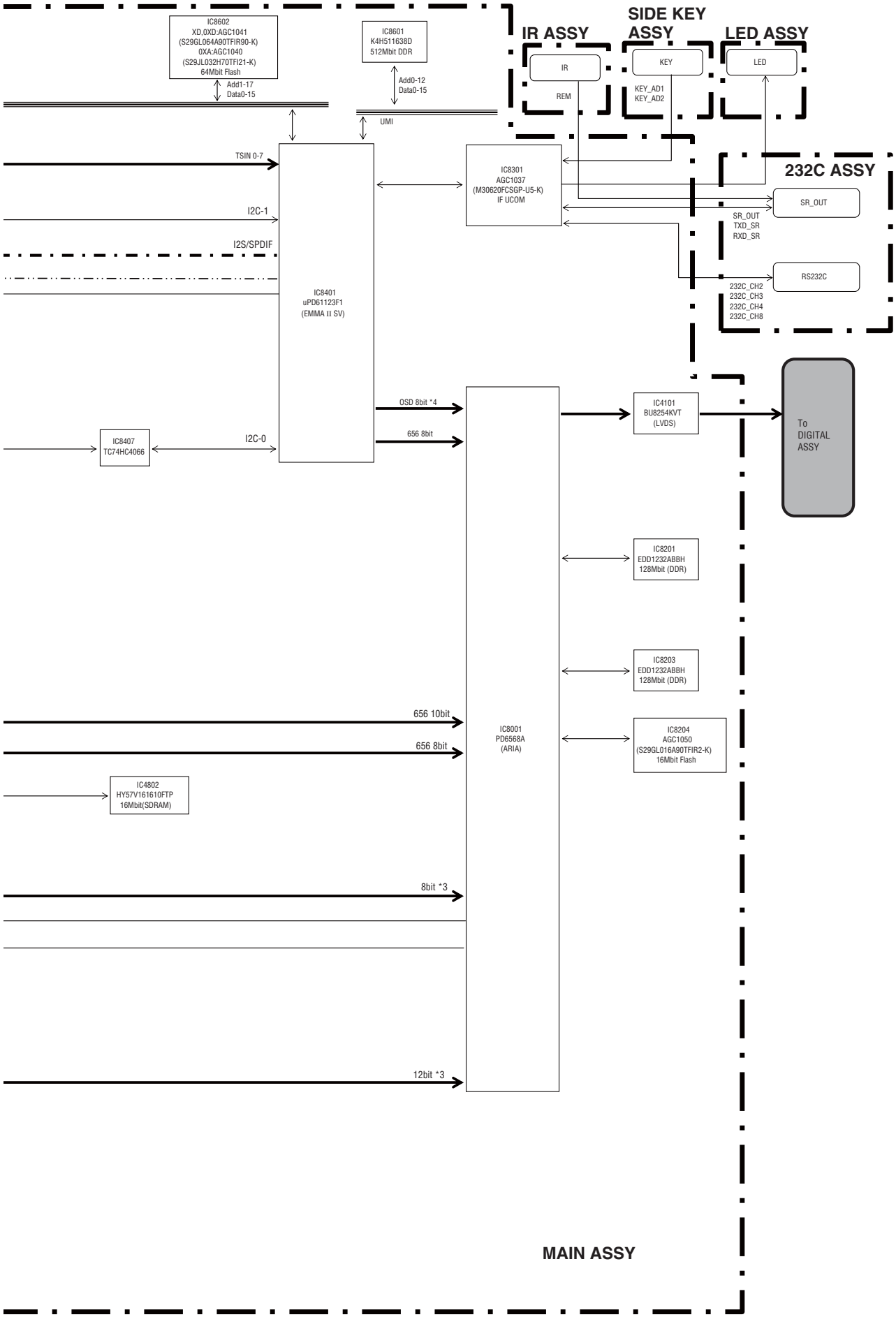
4.3 OVERALL BLOCK DIAGRAM (1/2)




60F ADDRESS L ASSY
60F ADDRESS S ASSY
POWER SUPPLY UNIT
PRIMARY
FHD POWER SW ASSY
: Wire harness
: FFC
PANEL SENSOR ASSY
60F X DRIVE ASSY
MODULE UCOM
M30620FCPGP
IC3601
LVDS TRANSMITTER
PEG384B
IC3401
SUB-FILD CONV. & XY DRV SEQUENCE PATTERN GEN.
PEG383B-K
IC3301
LVDS Reciever
IC3202
60F ADDRESS L ASSY
60F ADDRESS L ASSY

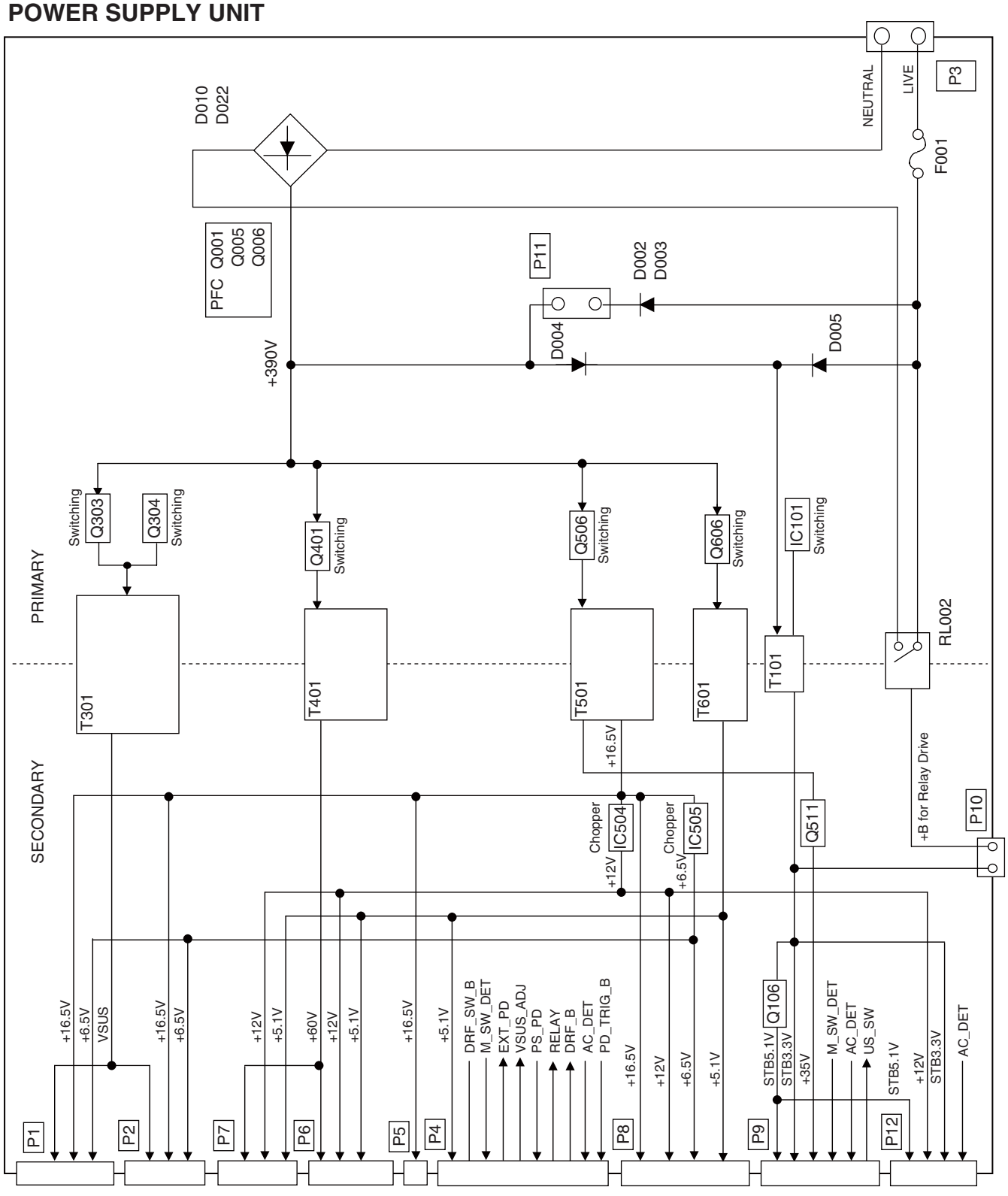
4.4 OVERALL BLOCK DIAGRAM (2/2)




IC8602
XD,0XD:AGC1041
(S29GL064A90TFIR90-K)
0XA:AGC1040
(S29JL032H70TFI21-K)
64Mbit Flash
Add1-17
Data0-15
IC8601
K4H511638D
512Mbit DDR
Add0-12
Data0-15
UMI
IR ASSY
IR
REM
SIDE KEY ASSY
KEY
KEY_AD1
KEY_AD2
LED ASSY
LED
232C ASSY
SR_OUT
SR_OUT
TXD_SR
RXD_SR
RS232C
232C_CH2
232C_CH3
232C_CH4
232C_CH8
TSIN 0-7
I2C-1
I2S/SPDIF
IC8301
AGC1037
(M30620FCSGP-U5-K)
IF UCOM
IC8401
uPD61123F1
(EMMA II SV)
IC8407
TC74HC4066
I2C-0
OSD 8bit *4
656 8bit
IC4101
BU8254KVT
(LVDS)
To
DIGITAL
ASSY
IC8201
EDD1232ABBH
128Mbit (DDR)
IC8203
EDD1232ABBH
128Mbit (DDR)
656 10bit
656 8bit
IC8001
PD6568A
(ARIA)
IC8204
AGC1050
(S29GL016A90TFIR2-K)
16Mbit Flash
IC4802
HY57V161610FTP
16Mbit(SDRAM)
8bit *3
12bit *3
MAIN ASSY

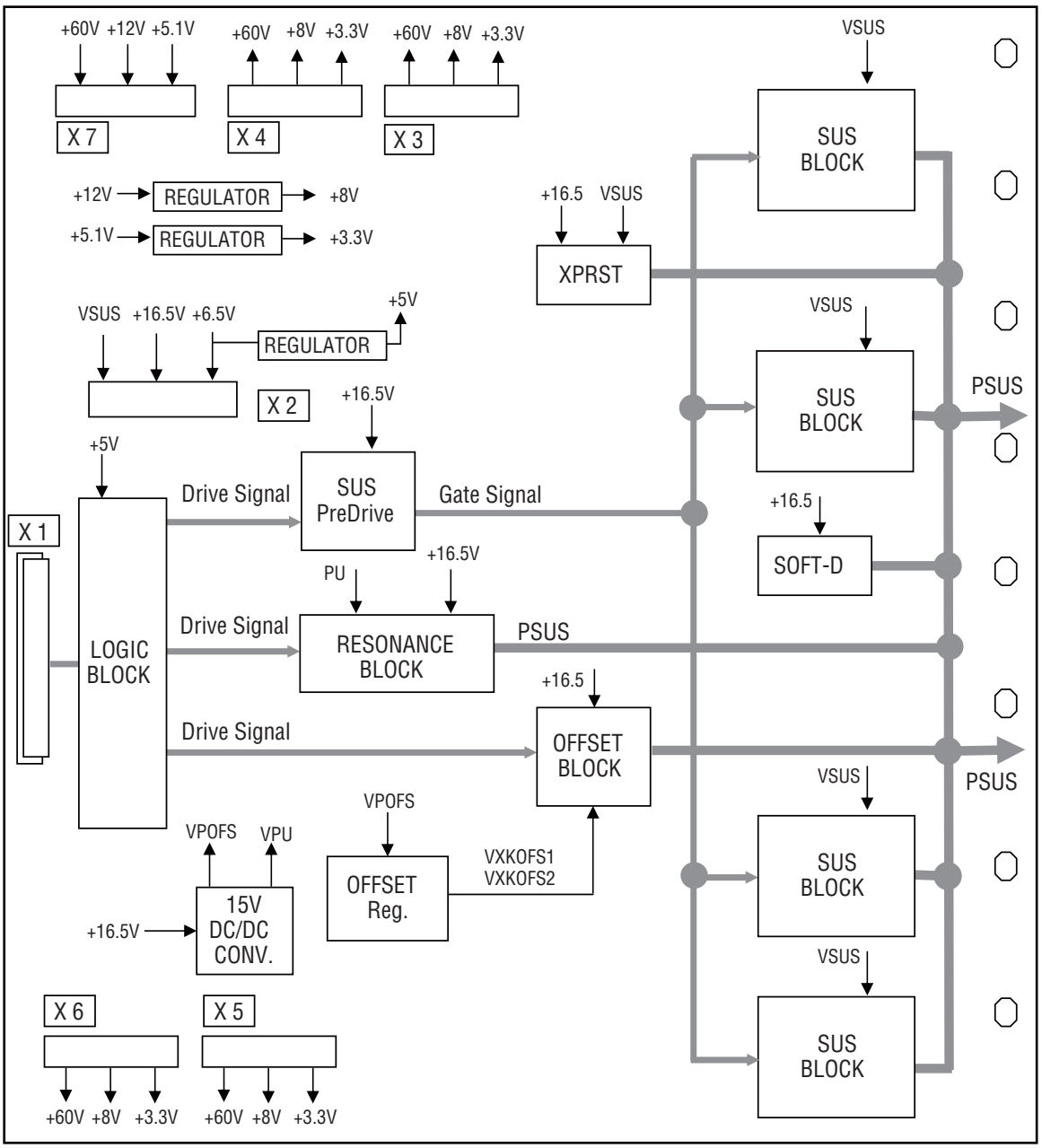
4.5 POWER SUPPLY UNIT

POWER SUPPLY UNIT

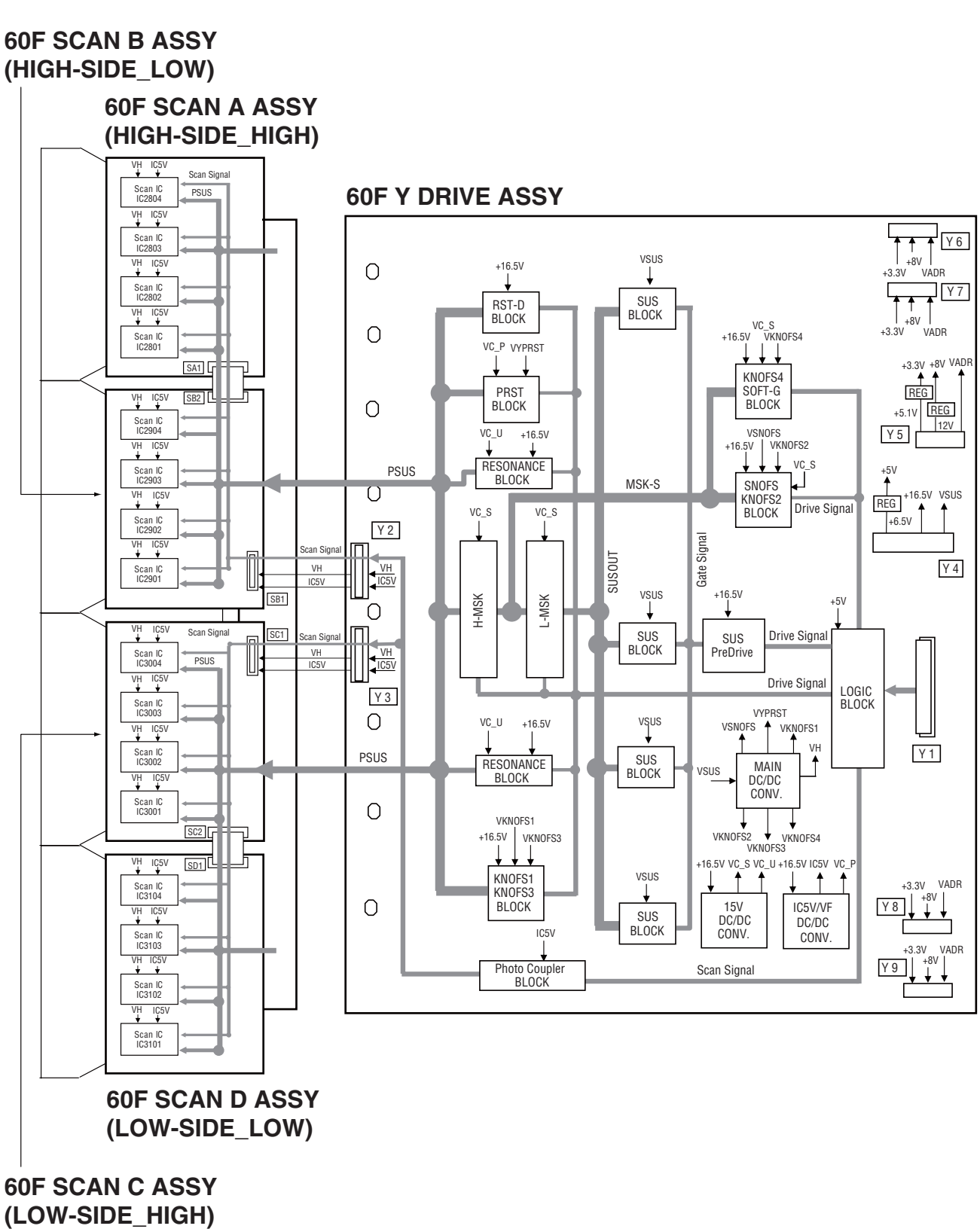


4.6 60F X DRIVE ASSY

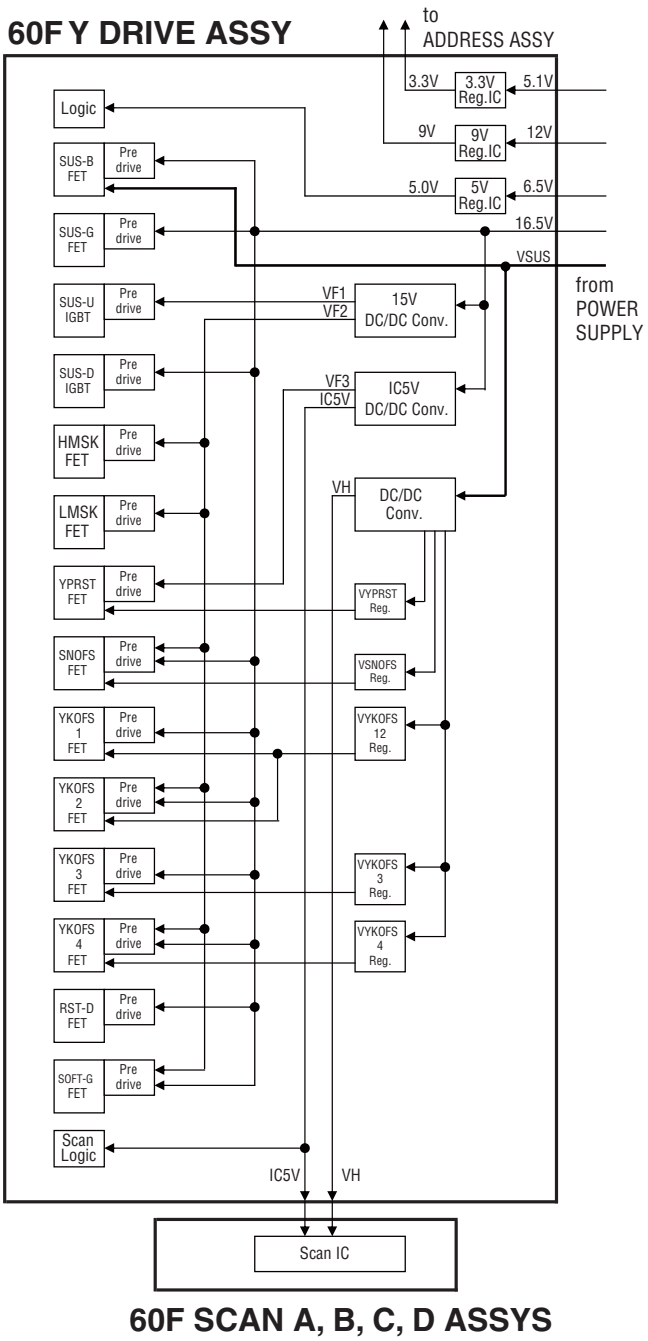
60F X DRIVE ASSY



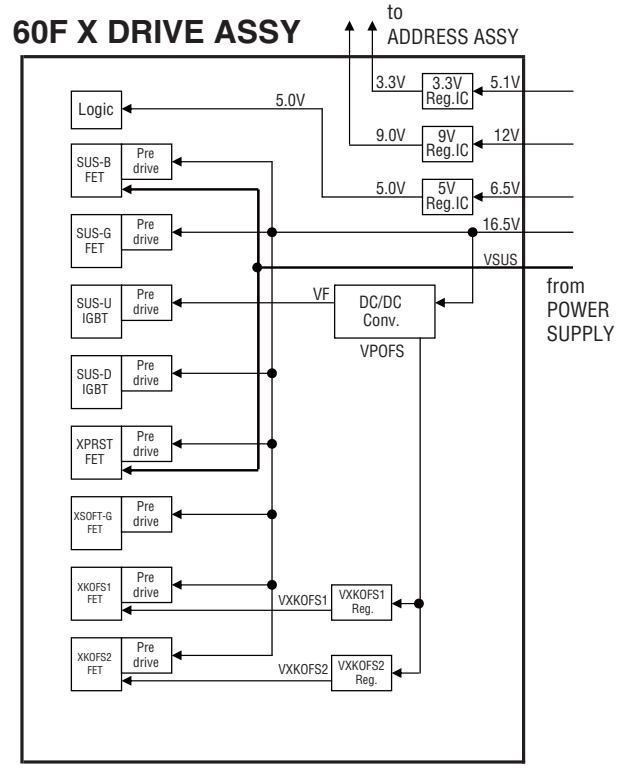
4.7 60F Y DRIVE, 60F SCAN A, B, C and D ASSYS



4.8 POWER SUPPLY BLOCK of 60F X, Y DRIVE and 60F SCAN A, B, C and D ASSYS



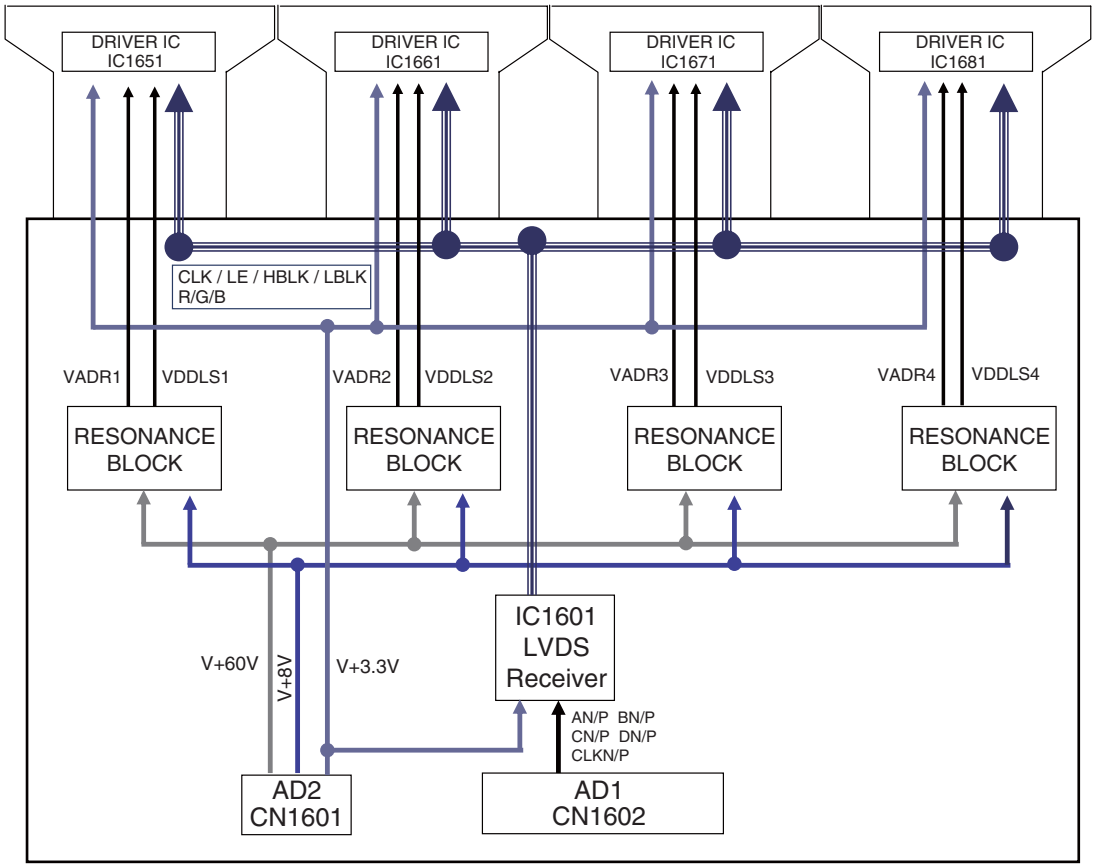
60F SCAN A, B, C, D ASSYS



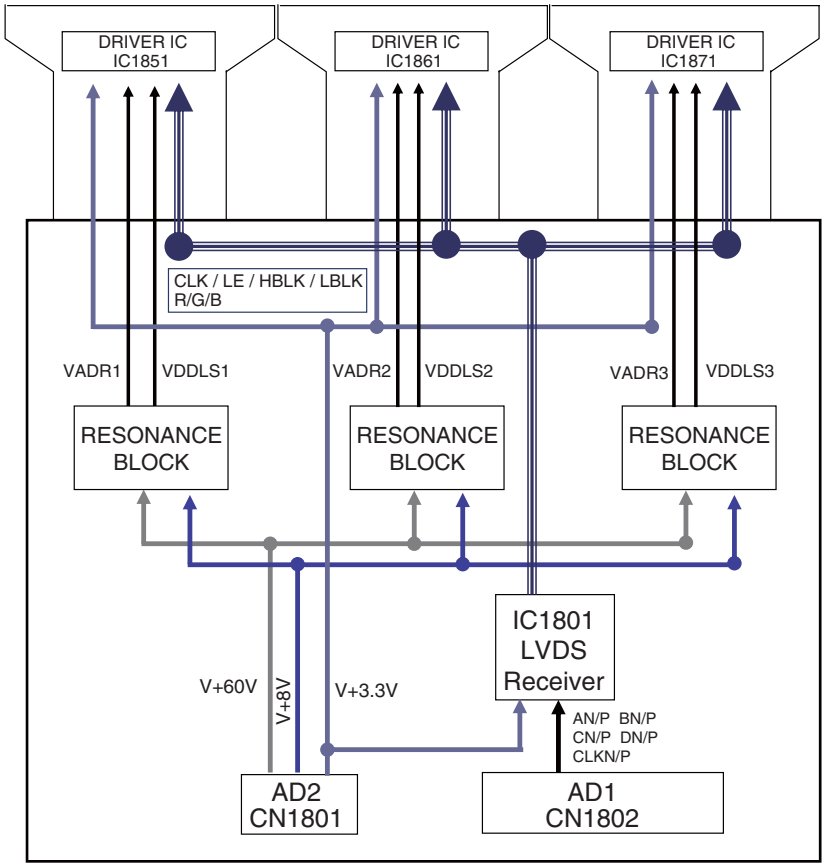
Note:
VYPRST, VSNOFS, VYKOFS12, VYKOFS3, VYKOFS4
VXKOFS1 and VXKOFS2 voltages are electrical volume controls.

4.9 60F ADDRESS L and S ASSYS

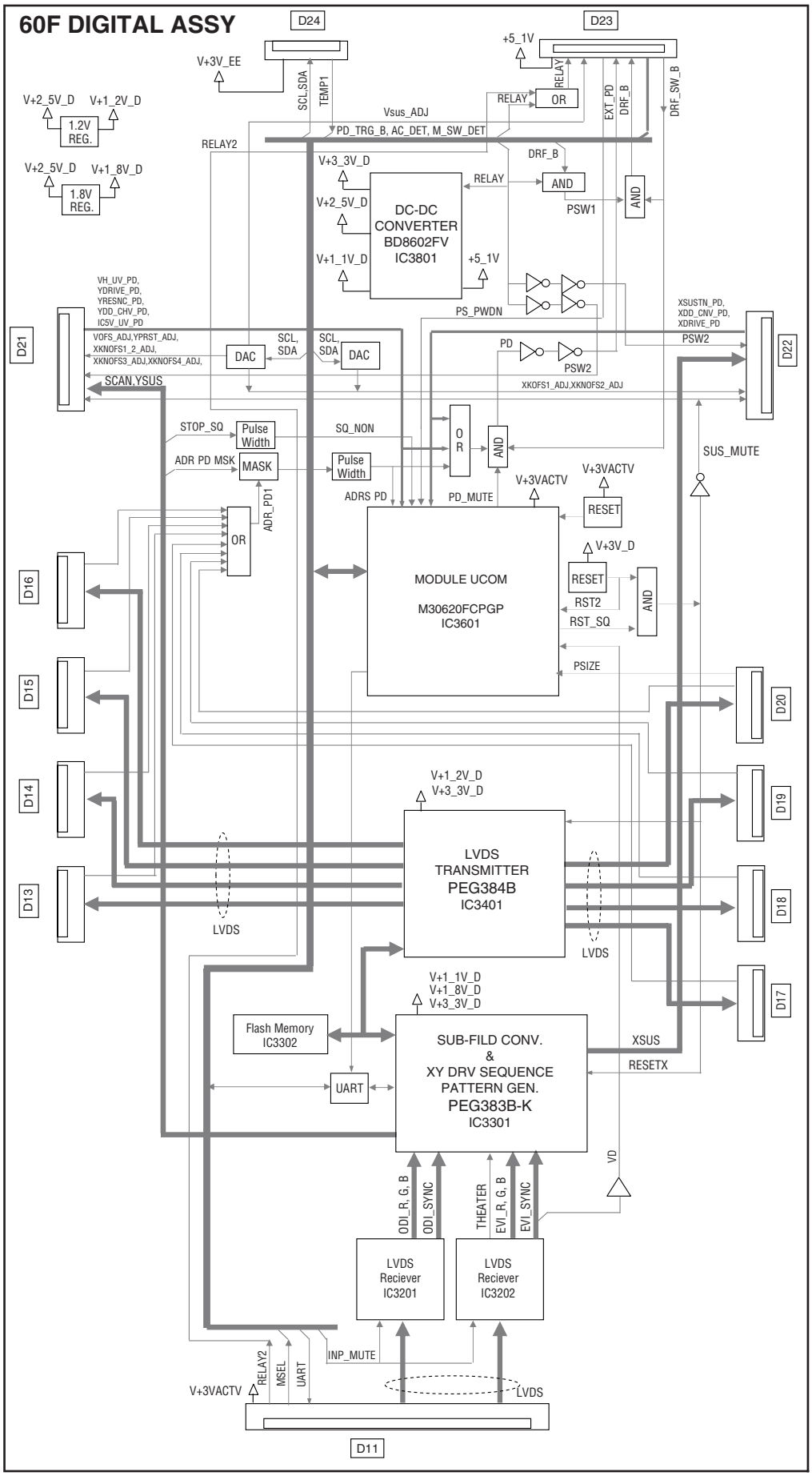
60F ADDRESS L ASSY



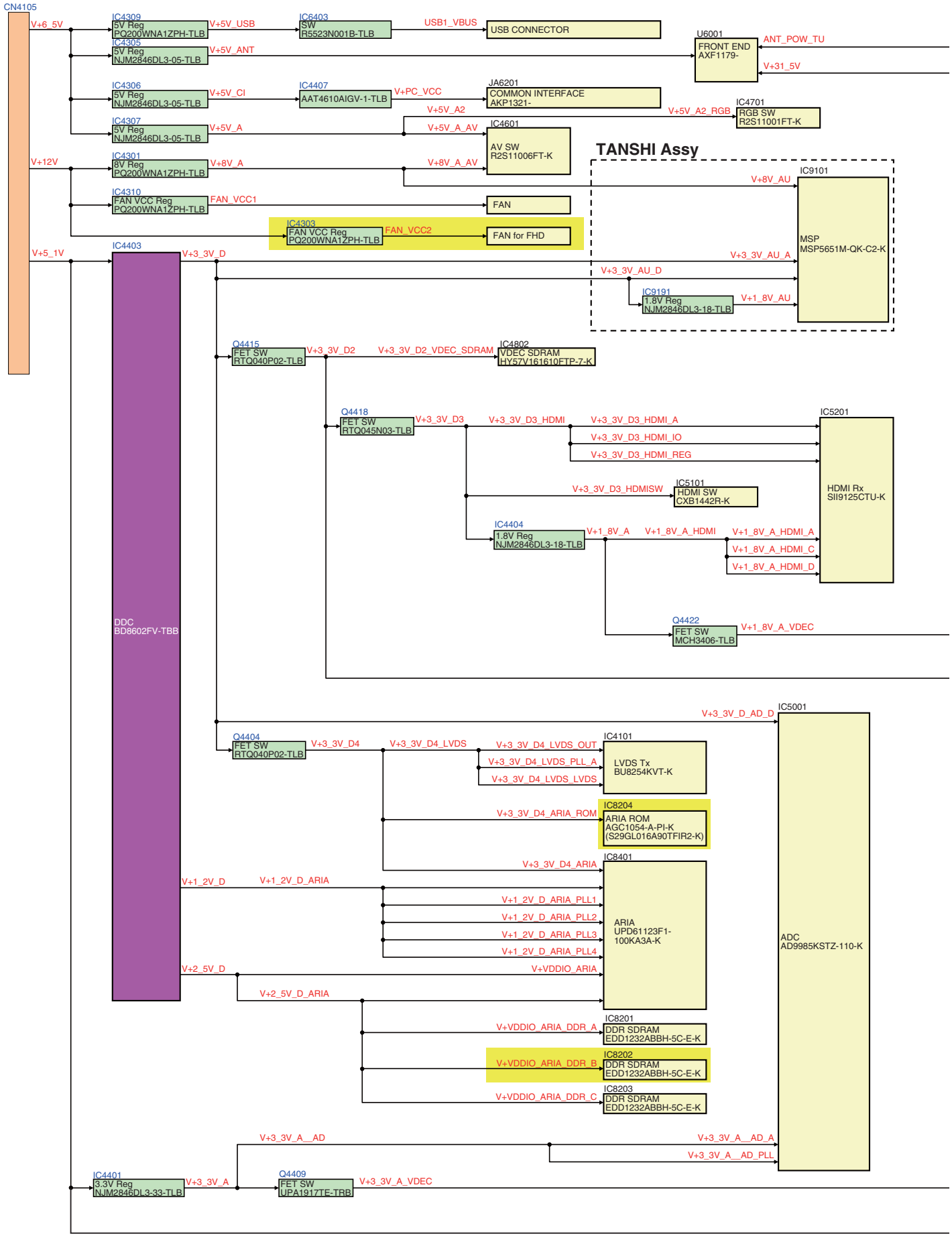
60F ADDRESS S ASSY

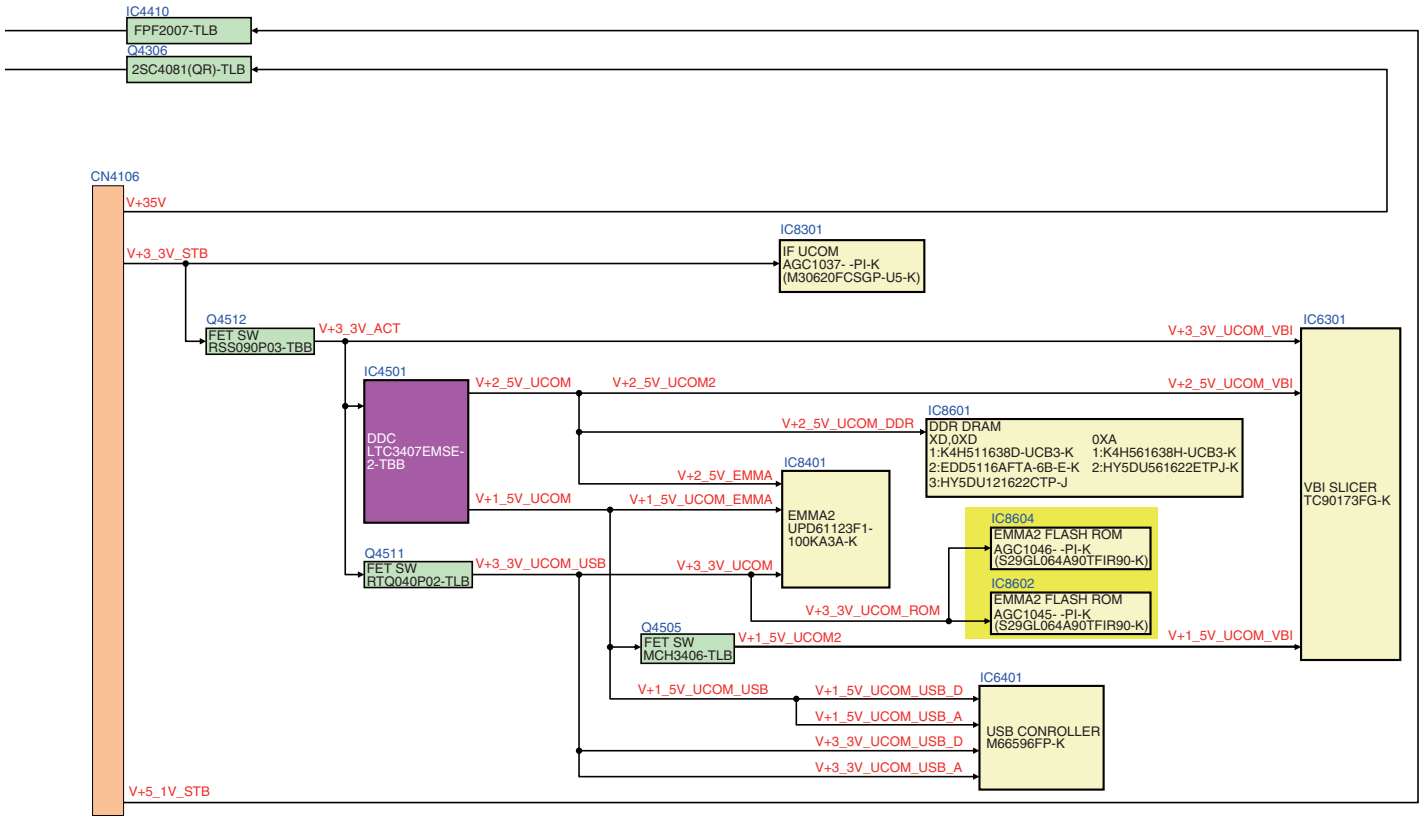


4.10 60F DIGITAL ASSY



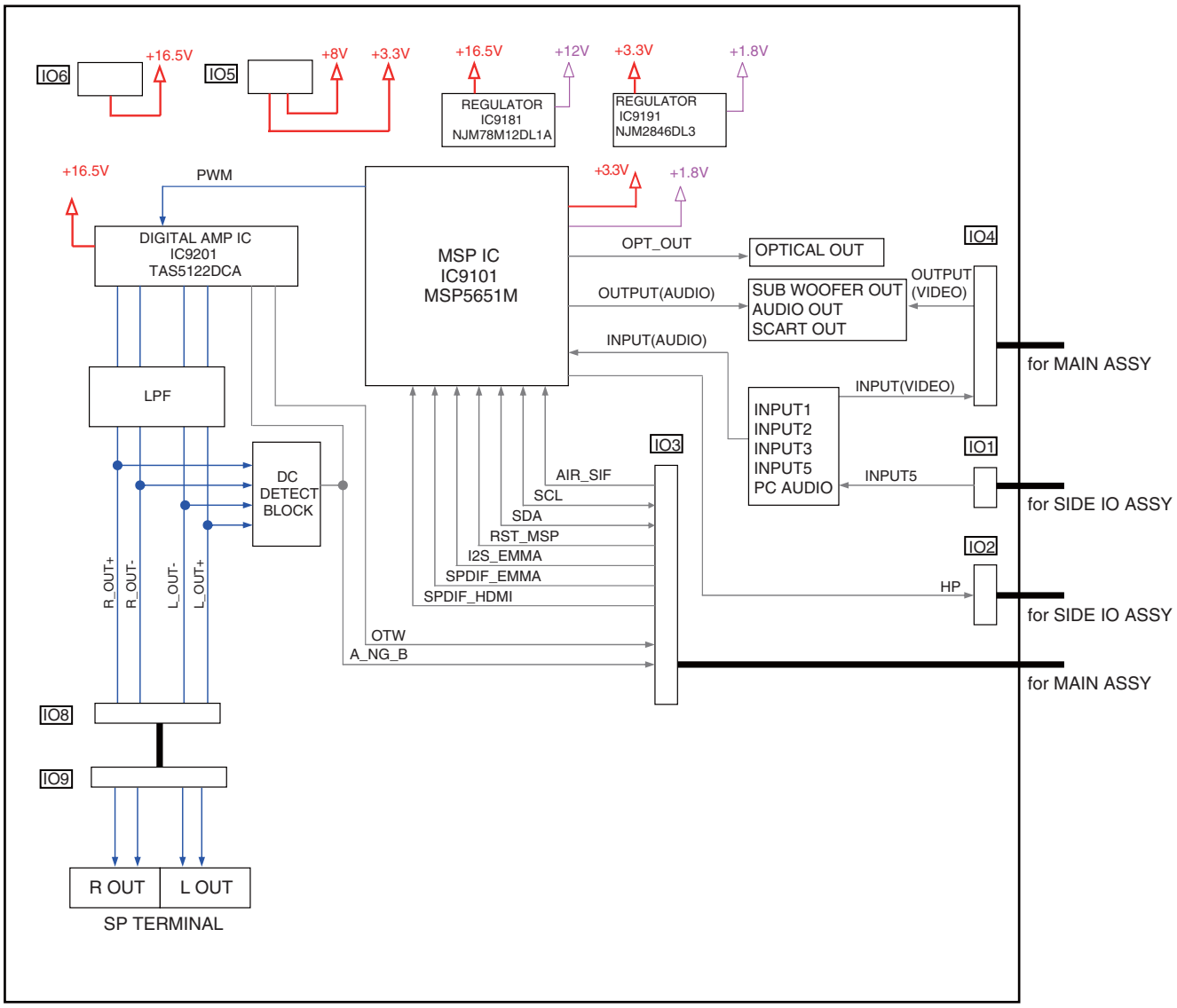
4.11 POWER SUPPLY BLOCK of MULTI BASE SECTION



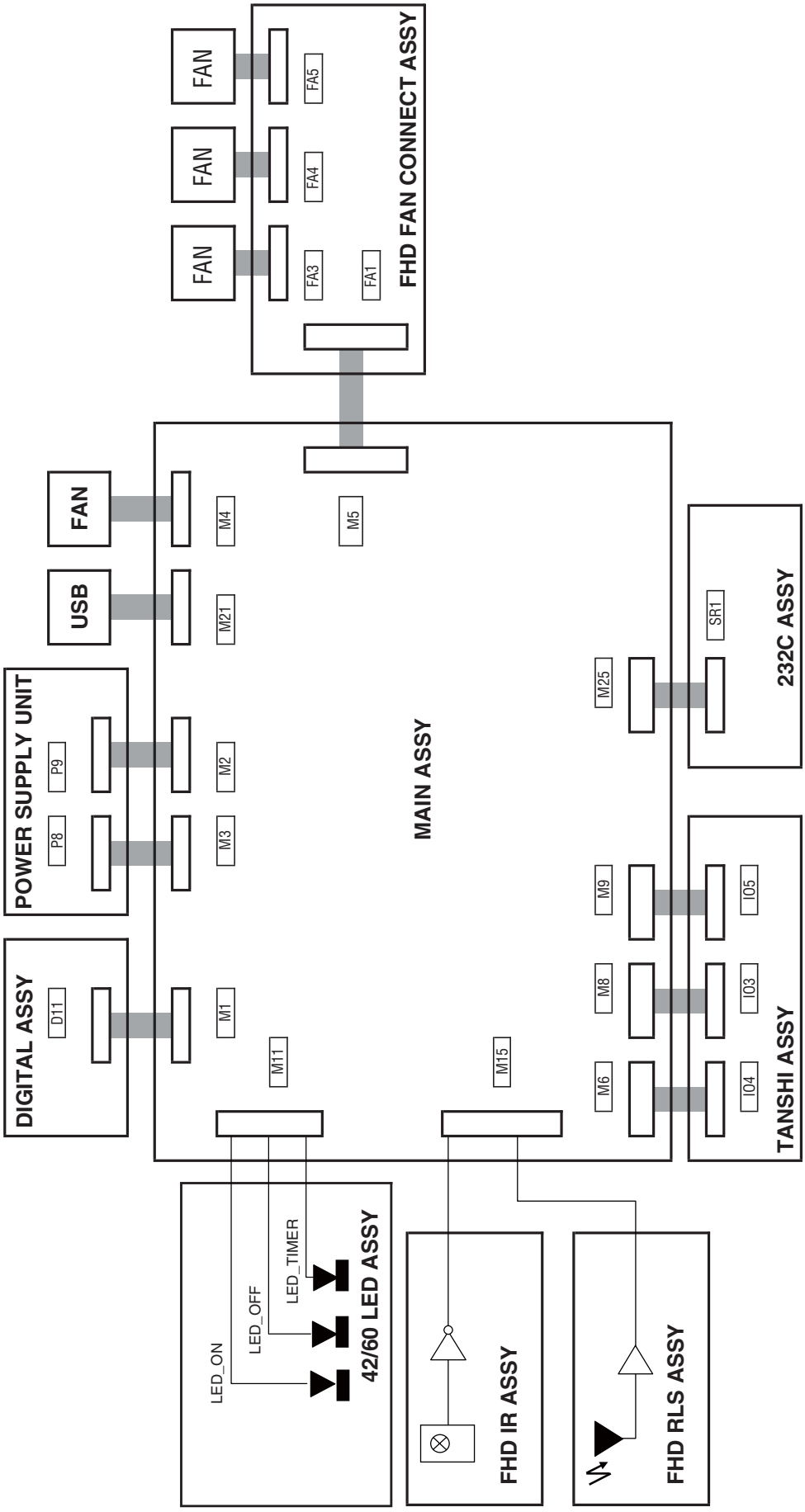

IC4410
FPF2007-TLB
Q4306
2SC4081(QR)-TLB
CN4106
V+35V
V+3_3V_STB
IC8301
IF UCOM
AGC1037- -PI-K
(M30620FCSGP-U5-K)
Q4512
FET SW
RSS090P03-TBB
V+3_3V_ACT
V+3_3V_UCOM_VBI
IC6301
IC4501
DDC
LTC3407EMSE-
2-TBB
V+2_5V_UCOM
V+2_5V_UCOM2
V+2_5V_UCOM_VBI
IC8601
V+2_5V_UCOM_DDR
DDR DRAM
XD,0XD
1:K4H511638D-UCB3-K
2:EDD5116AFTA-6B-E-K
3:HY5DU121622CTP-J
0XA
1:K4H561638H-UCB3-K
2:HY5DU561622ETPJ-K
V+2_5V_EMMA
IC8401
EMMA2
UPD61123F1-
100KA3A-K
V+1_5V_UCOM
V+1_5V_UCOM_EMMA
IC8604
EMMA2 FLASH ROM
AGC1046- -PI-K
(S29GL064A90TFIR90-K)
Q4511
FET SW
RTQ040P02-TLB
V+3_3V_UCOM_USB
V+3_3V_UCOM
IC8602
EMMA2 FLASH ROM
AGC1045- -PI-K
(S29GL064A90TFIR90-K)
V+3_3V_UCOM_ROM
Q4505
FET SW
MCH3406-TLB
V+1_5V_UCOM2
V+1_5V_UCOM_VBI
VBI SLICER
TC90173FG-K
IC6401
V+1_5V_UCOM_USB
V+1_5V_UCOM_USB_D
V+1_5V_UCOM_USB_A
V+3_3V_UCOM_USB_D
V+3_3V_UCOM_USB_A
USB CONROLLER
M66596FP-K
V+5_1V_STB

IC4801
V+1_8V_A_VDEC_D
V+1_8V_A_VDEC_PLL
V+3_3V_D2_VDEC_D
VDEC
CM0048BF-K
V+3_3V_A_VDEC_A
IC4406
1.8V Reg
NJM2846DL3-18-TLB
V+1_8V_BE
V+1_8V_BE_COFDEM
IC6101
COFDEM
DRX3975D-QI-B1-K
IC4405
3.3V Reg
NJM2846DL3-33-TLB
V+3_3V_BE
V+3_3V_BE_COFDEM

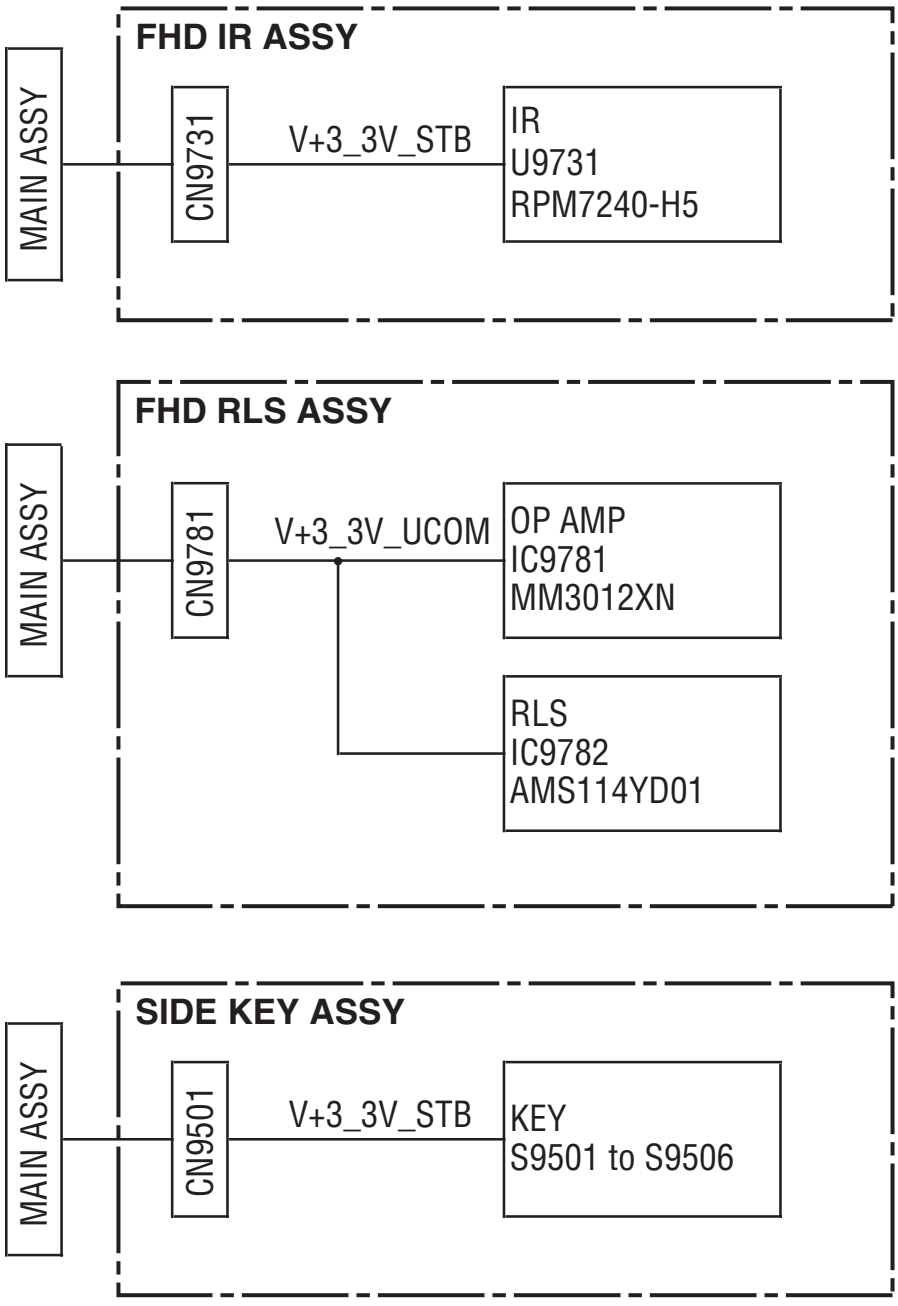
4.12 TANSHI ASSY



4.13 42/60 LED and FHD IR ASSYS



4.14 POWER SUPPLY BLOCK of 50LED&IR and SIDE KEY ASSYS



5. DIAGNOSIS

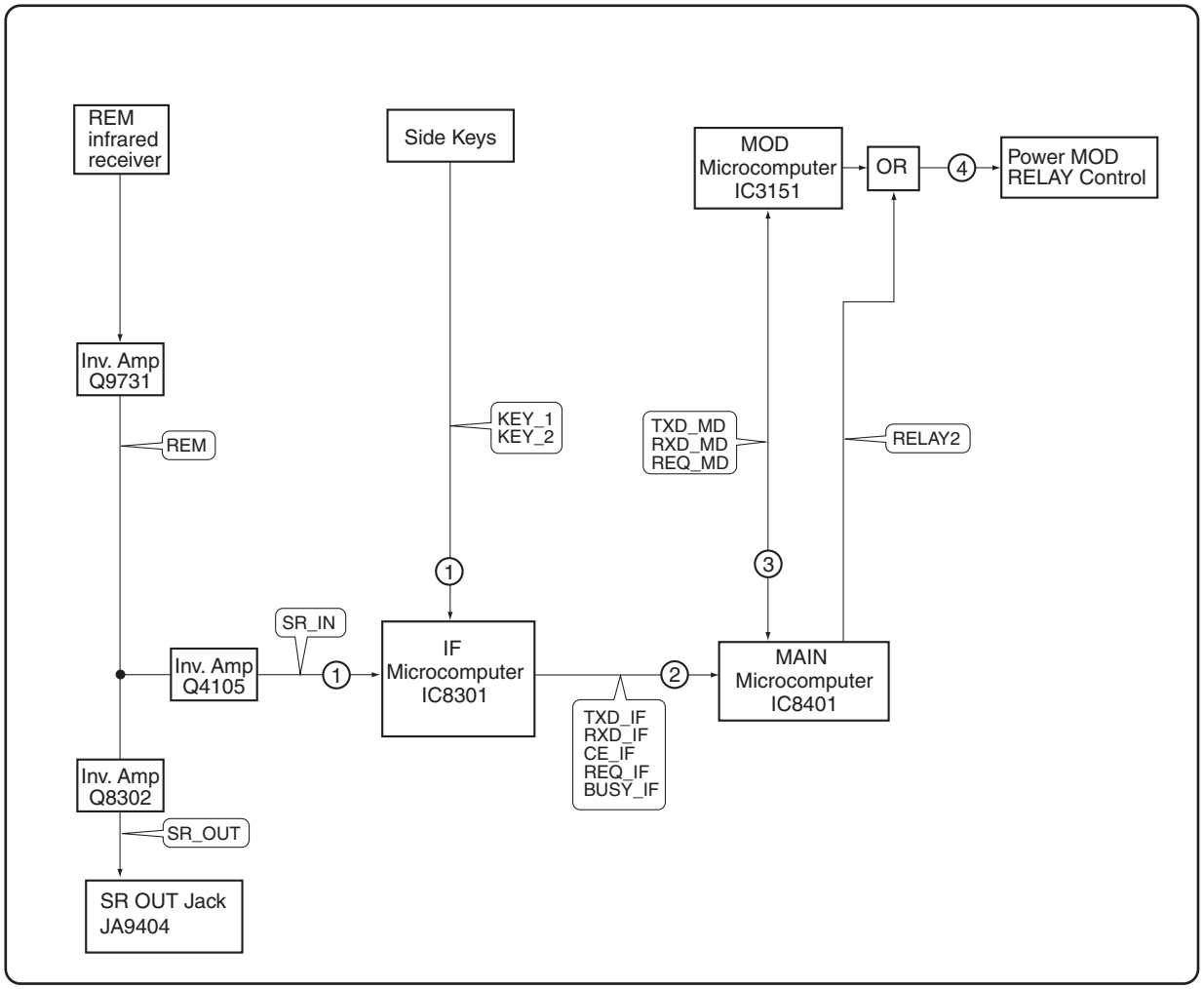
5.1 POWER SUPPLY OPERATION

5.1.1 LED DISPLAY INFORMATION

LED Pattern

State	LED Pattern	Remarks
AC OFF or Main power switch OFF		
Standby power management		
Power ON (Screen ON)		
Power-down	Once 500ms / Twice / n times / 2.5s / Once	
Shutdown	500ms Once / Twice / n times / 2.5s / Once	
No digital adjustment data copied for backup	200ms	The LEDs flash only while the panel is turned on.
In the process of rewriting the program of the microcomputer	100ms 100ms	
During factory operation		
During reservation video recording (Unit: Standby)		
During reservation video recording (Unit: ON)		

5.1.2 POWER ON SEQUENCE



① : The remote control (or KEY) signal is input to the IF microcomputer.
② : The IF microcomputer sends the operation data of the remote control unit (or KEY) to the main microcomputer.
③ : The main microcomputer issues a startup command (PON) to the MOD microcomputer.
④ : The relay is controlled with logical OR interpretation of control signals by the main microcomputer and module (MOD) microcomputer.

5.1.3 DETAILS OF POWER ON SEQUENCE

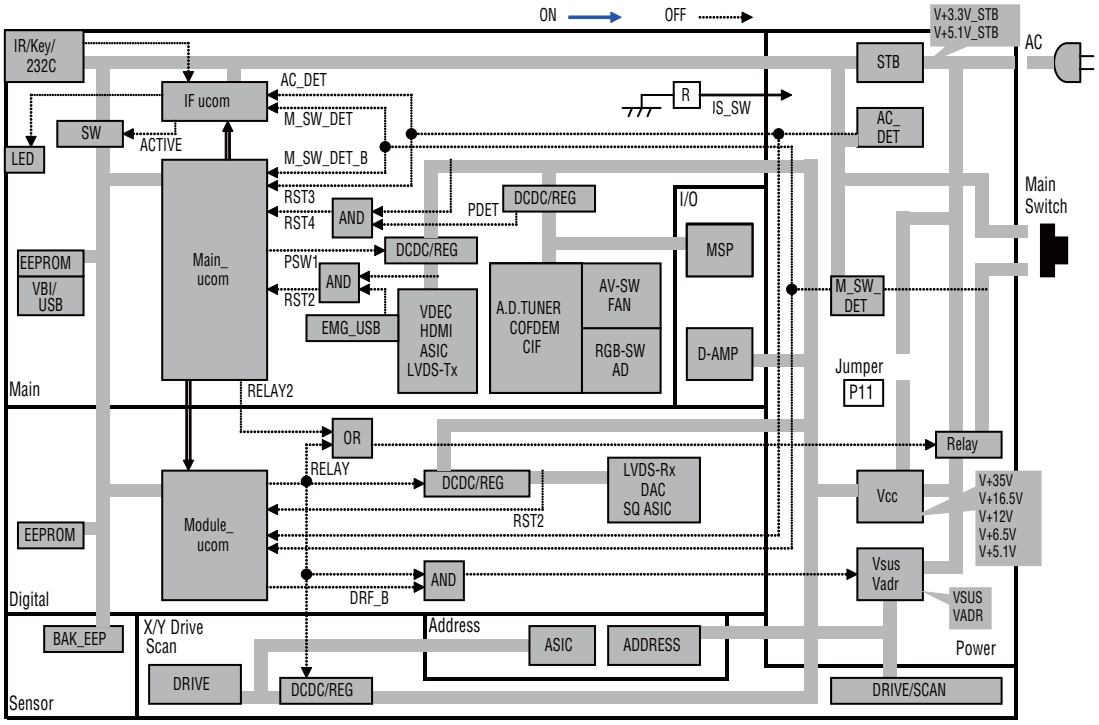
Power supply status - AC off

Microcomputer output port state

IF: ACTIVE	OFF
Main: RELAY2	OFF
Main: PSW1	OFF
Module: RELAY	OFF
Module: DRF_B	OFF

Microcomputer input port state

Main: RST4	OFF
Main: RST2	OFF
Module: RST2	OFF



The state of AC cord is pulled out.

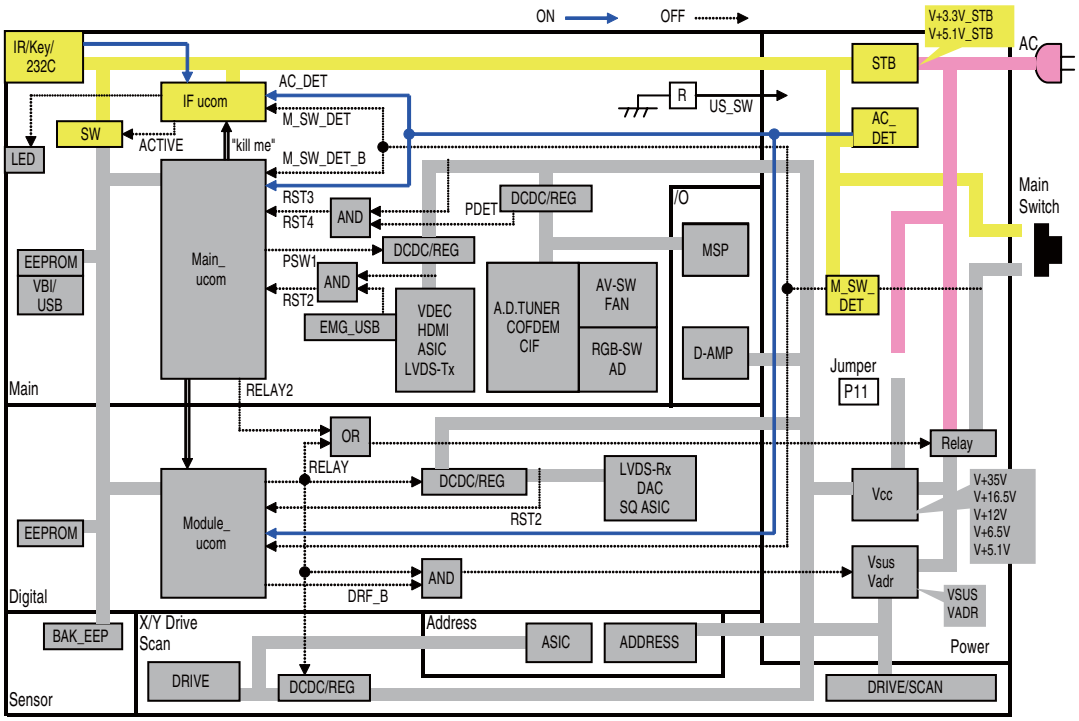
Power supply status - Passive standby (Main switch off)

Microcomputer output port state

IF: ACTIVE	OFF
Main: RELAY2	OFF
Main: PSW1	OFF
Module: RELAY	OFF
Module: DRF_B	OFF

Microcomputer input port state

Main: RST4	OFF
Main: RST2	OFF
Module: RST2	OFF



The user operation is invalid. (All LED: OFF)
Among standby power devices, only the IF microcomputer periphery operates.

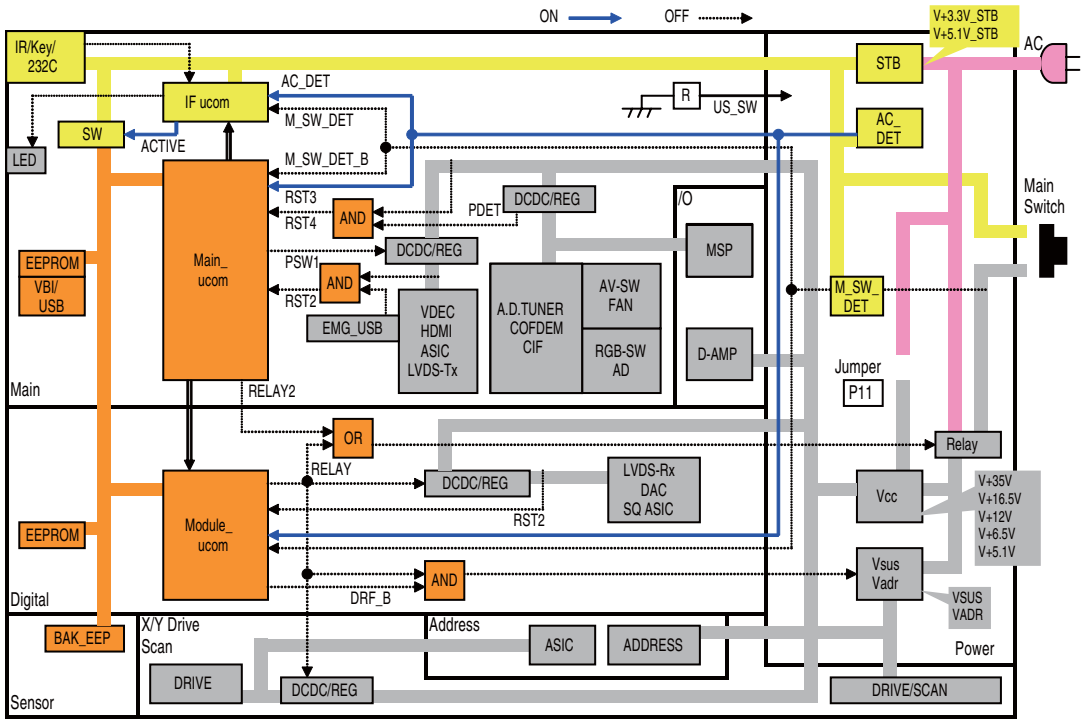
Power supply status - Active standby (Main switch off)

Microcomputer output port state

IF: ACTIVE	**ON**
Main: RELAY2	OFF
Main: PSW1	OFF
Module: RELAY	OFF
Module: DRF_B	OFF

Microcomputer input port state

Main: RST4	OFF
Main: RST2	OFF
Module: RST2	OFF



The user operation is invalid. (All LED: OFF)
Standby power devices (periphery of IF/Main/Module microcomputer) operate.

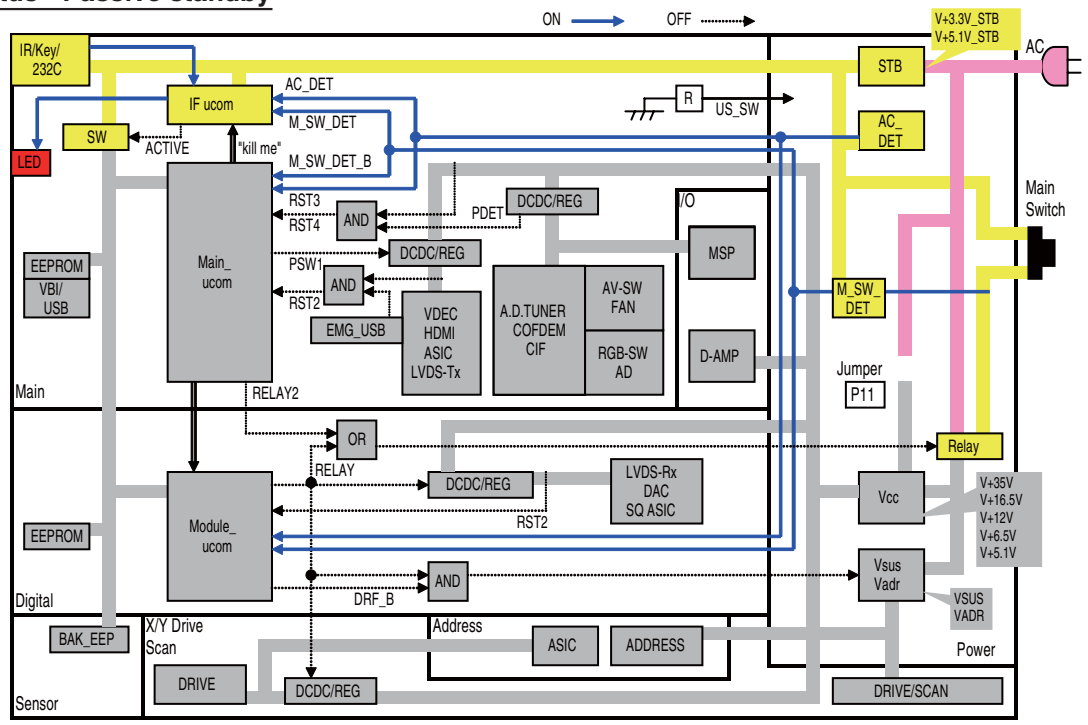
Power supply status - Passive standby

Microcomputer output port state

IF: ACTIVE	OFF
Main: RELAY2	OFF
Main: PSW1	OFF
Module: RELAY	OFF
Module: DRF_B	OFF

Microcomputer input port state

Main: RST4	OFF
Main: RST2	OFF
Module: RST2	OFF



Remote control unit waiting state. (Red LED: ON)
Among standby power devices, only the IF microcomputer periphery operates.

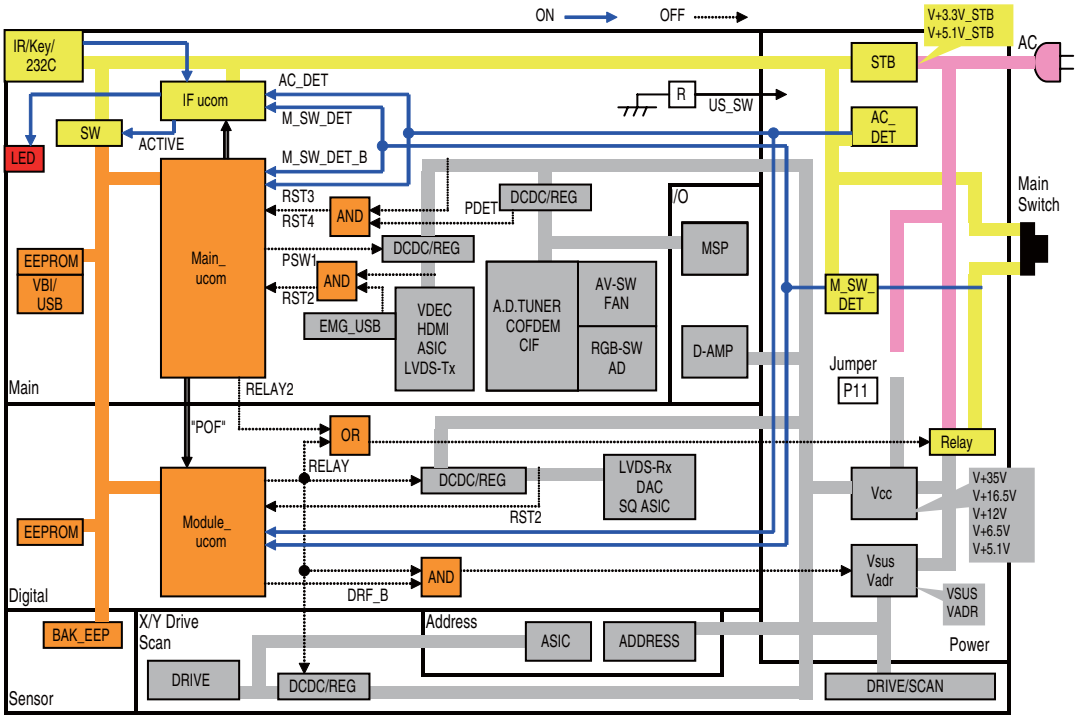
Power supply status - Active standby

Microcomputer output port state

IF: ACTIVE	**ON**
Main: RELAY2	OFF
Main: PSW1	OFF
Module: RELAY	OFF
Module: DRF_B	OFF

Microcomputer input port state

Main: RST4	OFF
Main: RST2	OFF
Module: RST2	OFF



Remote control unit waiting state. (Red LED: ON)
Standby power devices (periphery of IF/Main/Module microcomputer) operate.

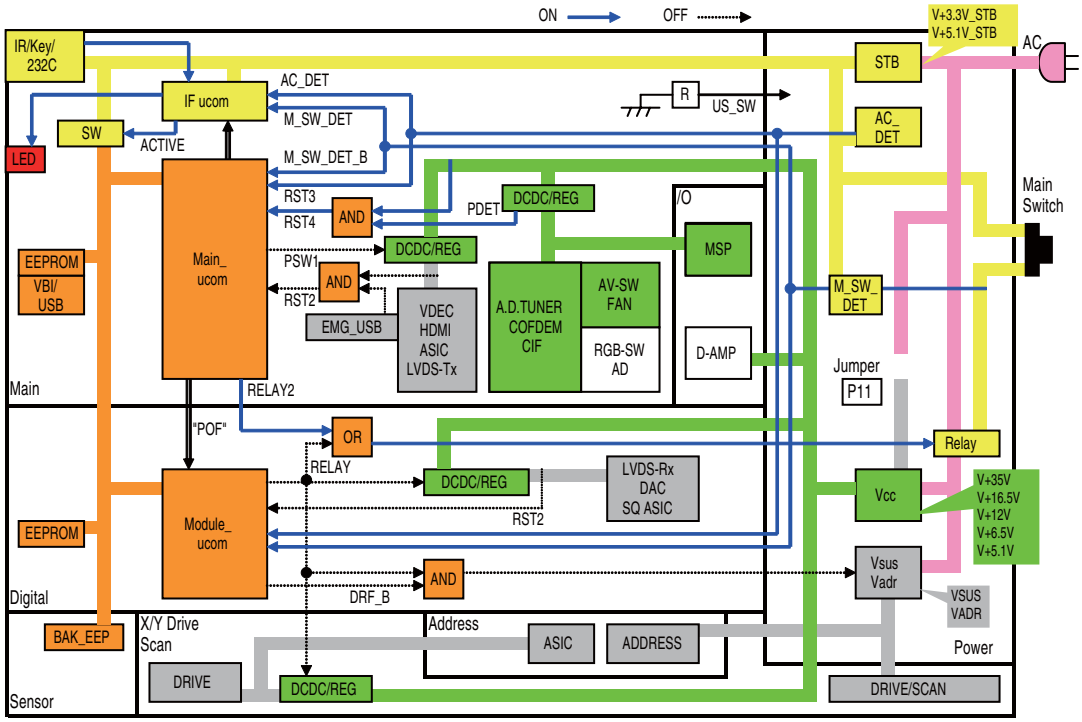
Power supply status - Functional standby

Microcomputer output port state

IF: ACTIVE	**ON**
Main: RELAY2	**ON**
Main: PSW1	OFF
Module: RELAY	OFF
Module: DRF_B	OFF

Microcomputer input port state

Main: RST4	**ON**
Main: RST2	OFF
Module: RST2	OFF



Remote control unit waiting state. (Red LED: ON)
Standby power device and some Vcc power devices operate.
RGB-SW/AD/D-AMP are electrified, but uses the power-saving mode function of the IC.

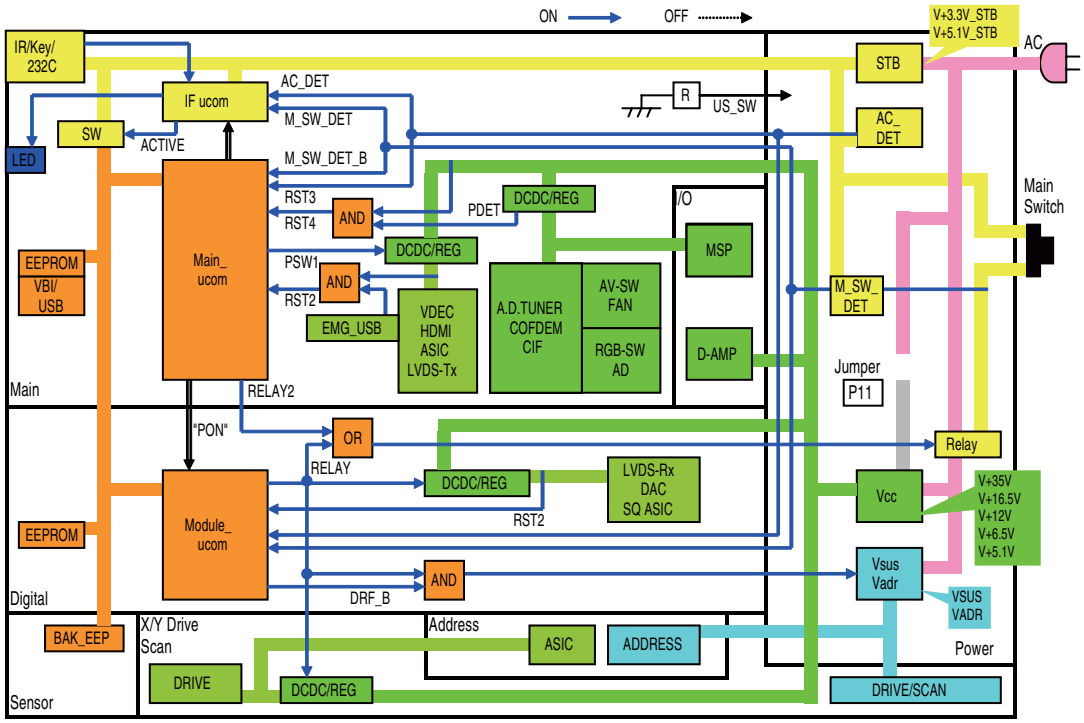
Power supply status - ON

Microcomputer output port state

IF: ACTIVE	ON
Main: RELAY2	ON
Main: PSW1	ON
Module: RELAY	ON
Module: DRF_B	ON

Microcomputer input port state

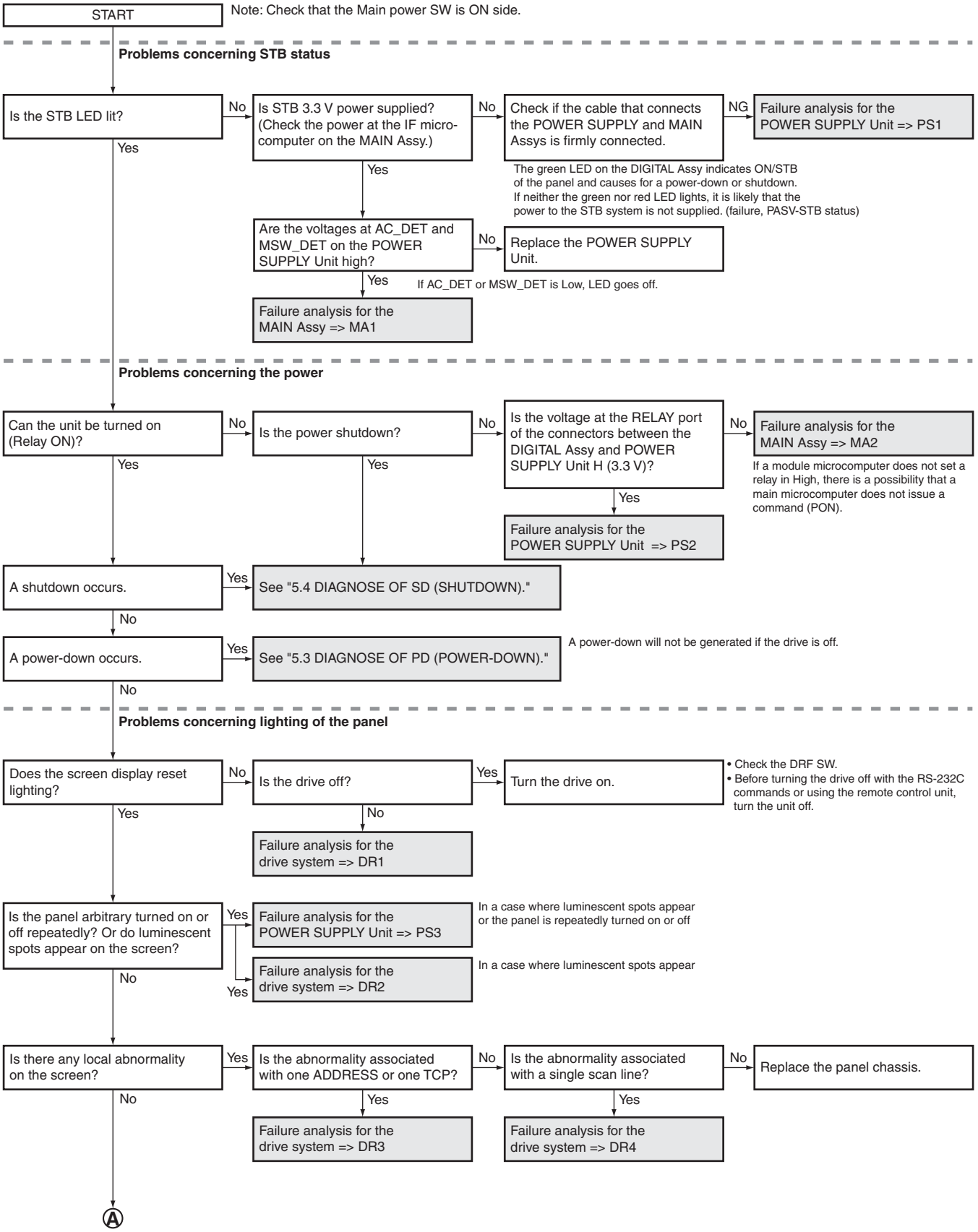
Main: RST4	ON
Main: RST2	ON
Module: RST2	ON

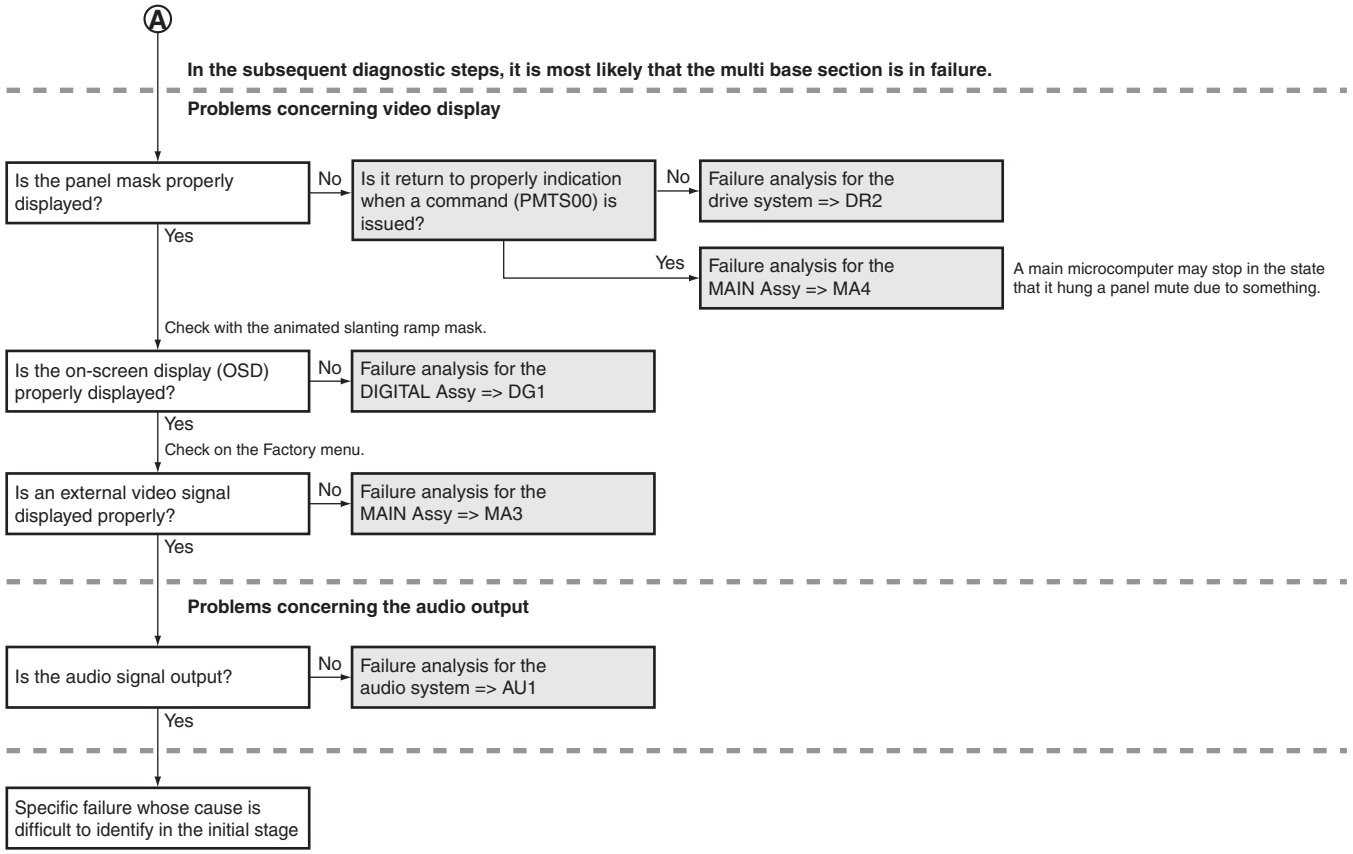


A state when it displays a picture on the PDP. (Blue LED: ON)
All devices are electrified.

5.2 DIAGNOSIS FLOWCHART OF FAILURE ANALYSIS
5.2.1 WHOLE UNIT

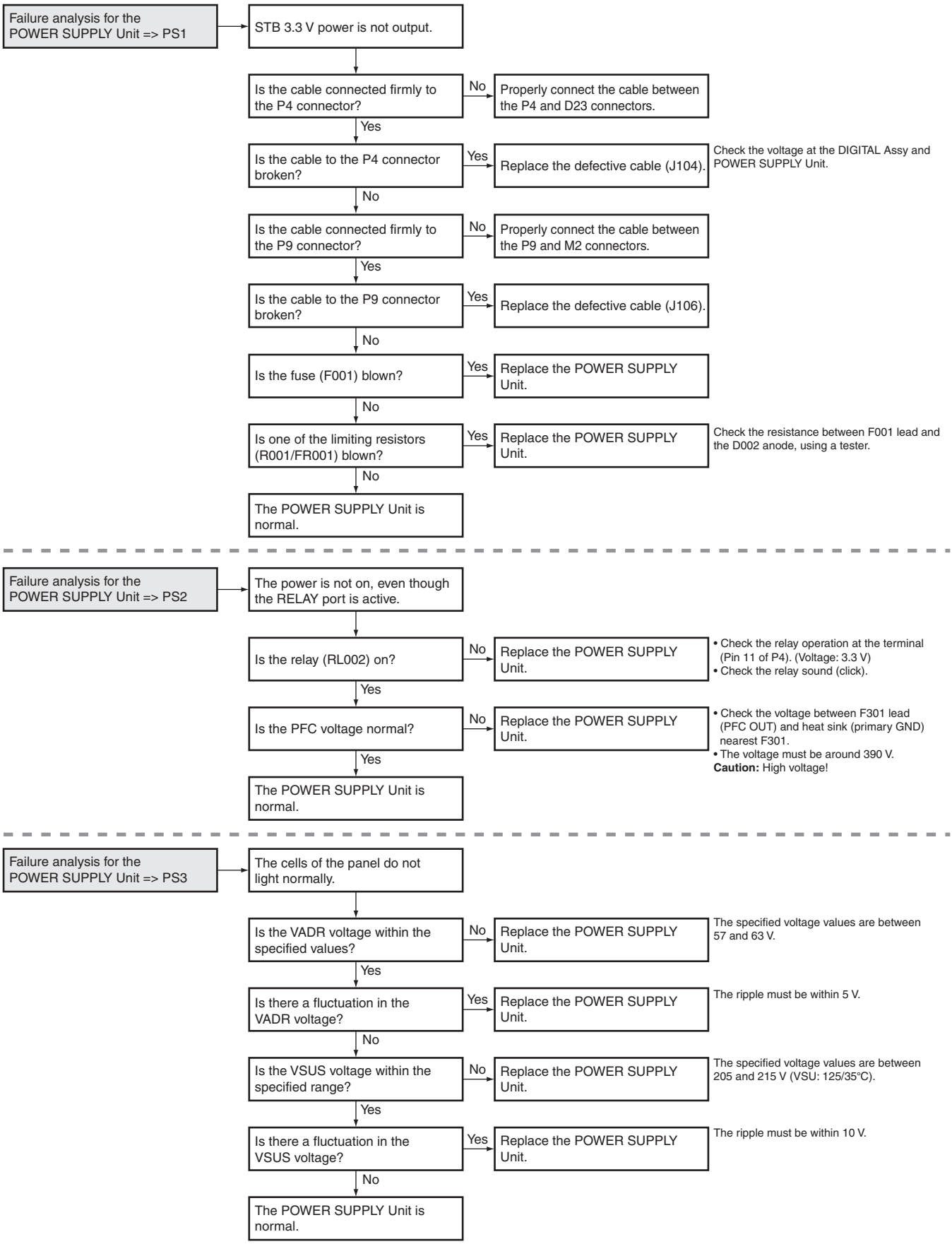
Flowchart of Failure Analysis for The Whole Unit


START
Note: Check that the Main power SW is ON side.
Problems concerning STB status
Is the STB LED lit?
No
Is STB 3.3 V power supplied? (Check the power at the IF micro-computer on the MAIN Assy.)
No
Check if the cable that connects the POWER SUPPLY and MAIN Assys is firmly connected.
NG
Failure analysis for the POWER SUPPLY Unit => PS1
Yes
Yes
The green LED on the DIGITAL Assy indicates ON/STB of the panel and causes for a power-down or shutdown. If neither the green nor red LED lights, it is likely that the power to the STB system is not supplied. (failure, PASV-STB status)
Are the voltages at AC_DET and MSW_DET on the POWER SUPPLY Unit high?
No
Replace the POWER SUPPLY Unit.
Yes
If AC_DET or MSW_DET is Low, LED goes off.
Failure analysis for the MAIN Assy => MA1
Problems concerning the power
Can the unit be turned on (Relay ON)?
No
Is the power shutdown?
No
Is the voltage at the RELAY port of the connectors between the DIGITAL Assy and POWER SUPPLY Unit H (3.3 V)?
No
Failure analysis for the MAIN Assy => MA2
If a module microcomputer does not set a relay in High, there is a possibility that a main microcomputer does not issue a command (PON).
Yes
Yes
Yes
Failure analysis for the POWER SUPPLY Unit => PS2
A shutdown occurs.
Yes
See "5.4 DIAGNOSE OF SD (SHUTDOWN)."
No
A power-down occurs.
Yes
See "5.3 DIAGNOSE OF PD (POWER-DOWN)."
A power-down will not be generated if the drive is off.
No
Problems concerning lighting of the panel
Does the screen display reset lighting?
No
Is the drive off?
Yes
Turn the drive on.
• Check the DRF SW.
• Before turning the drive off with the RS-232C commands or using the remote control unit, turn the unit off.
Yes
No
Failure analysis for the drive system => DR1
Is the panel arbitrary turned on or off repeatedly? Or do luminescent spots appear on the screen?
Yes
Failure analysis for the POWER SUPPLY Unit => PS3
In a case where luminescent spots appear or the panel is repeatedly turned on or off
No
Yes
Failure analysis for the drive system => DR2
In a case where luminescent spots appear
Is there any local abnormality on the screen?
Yes
Is the abnormality associated with one ADDRESS or one TCP?
No
Is the abnormality associated with a single scan line?
No
Replace the panel chassis.
No
Yes
Yes
Failure analysis for the drive system => DR3
Failure analysis for the drive system => DR4
Ⓐ


Ⓐ
In the subsequent diagnostic steps, it is most likely that the multi base section is in failure.
Problems concerning video display
Is the panel mask properly displayed?
No
Is it return to properly indication when a command (PMTS00) is issued?
No
Failure analysis for the drive system => DR2
Yes
Yes
Failure analysis for the MAIN Assy => MA4
A main microcomputer may stop in the state that it hung a panel mute due to something.
Yes
Check with the animated slanting ramp mask.
Is the on-screen display (OSD) properly displayed?
No
Failure analysis for the DIGITAL Assy => DG1
Yes
Check on the Factory menu.
Is an external video signal displayed properly?
No
Failure analysis for the MAIN Assy => MA3
Yes
Problems concerning the audio output
Is the audio signal output?
No
Failure analysis for the audio system => AU1
Yes
Specific failure whose cause is difficult to identify in the initial stage

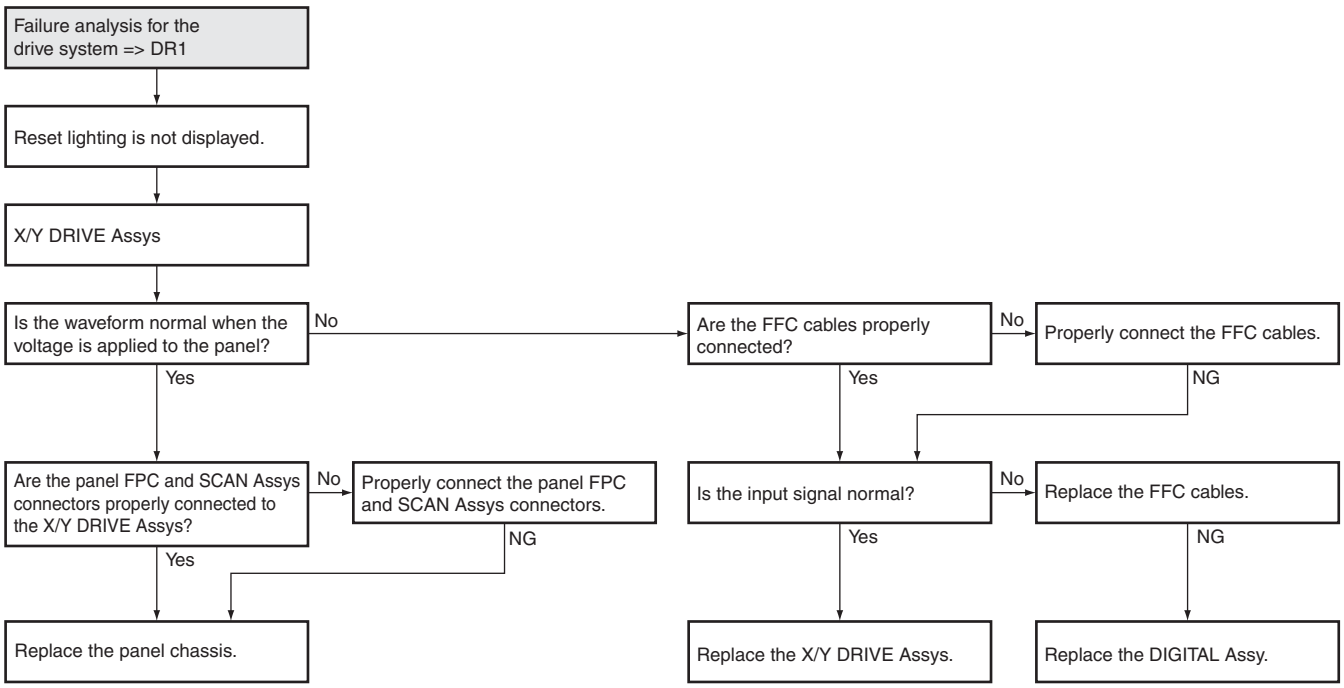
5.2.2 POWER SUPPLY UNIT

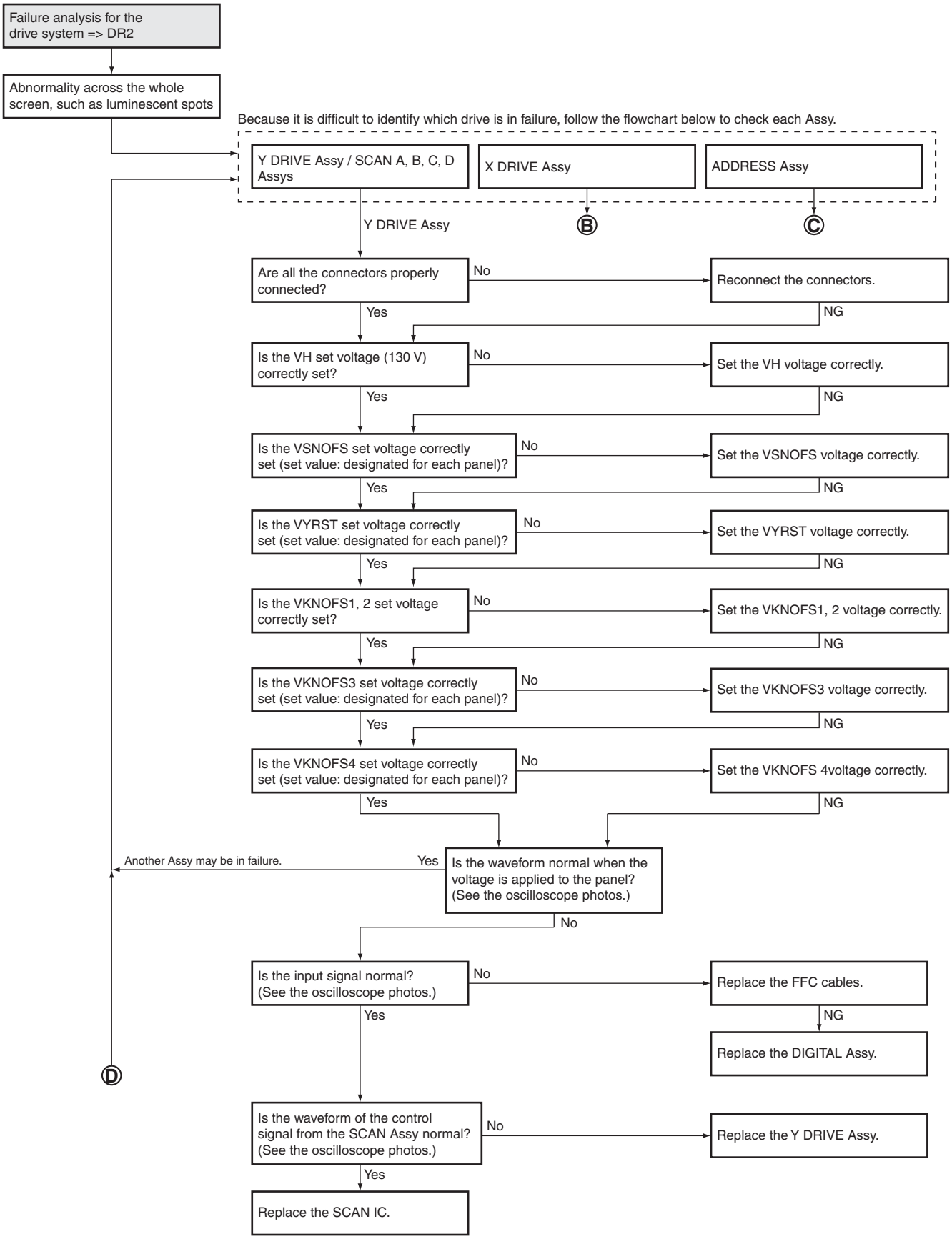
Flowchart of Failure Analysis for The POWER SUPPLY Unit

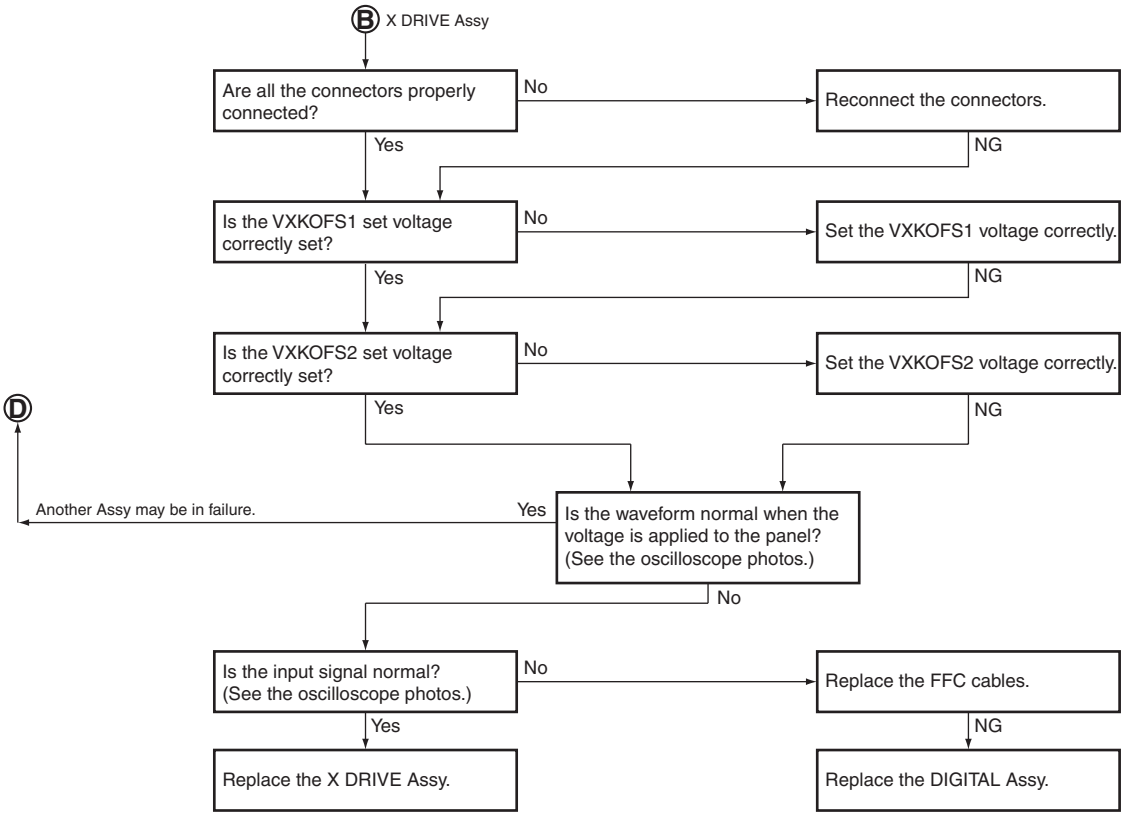

Failure analysis for the POWER SUPPLY Unit => PS1
STB 3.3 V power is not output.
Is the cable connected firmly to the P4 connector?
No
Properly connect the cable between the P4 and D23 connectors.
Yes
Is the cable to the P4 connector broken?
Yes
Replace the defective cable (J104).
Check the voltage at the DIGITAL Assy and POWER SUPPLY Unit.
No
Is the cable connected firmly to the P9 connector?
No
Properly connect the cable between the P9 and M2 connectors.
Yes
Is the cable to the P9 connector broken?
Yes
Replace the defective cable (J106).
No
Is the fuse (F001) blown?
Yes
Replace the POWER SUPPLY Unit.
No
Is one of the limiting resistors (R001/FR001) blown?
Yes
Replace the POWER SUPPLY Unit.
Check the resistance between F001 lead and the D002 anode, using a tester.
No
The POWER SUPPLY Unit is normal.
Failure analysis for the POWER SUPPLY Unit => PS2
The power is not on, even though the RELAY port is active.
Is the relay (RL002) on?
No
Replace the POWER SUPPLY Unit.
• Check the relay operation at the terminal (Pin 11 of P4). (Voltage: 3.3 V)
• Check the relay sound (click).
Yes
Is the PFC voltage normal?
No
Replace the POWER SUPPLY Unit.
• Check the voltage between F301 lead (PFC OUT) and heat sink (primary GND) nearest F301.
• The voltage must be around 390 V.
Caution: High voltage!
Yes
The POWER SUPPLY Unit is normal.
Failure analysis for the POWER SUPPLY Unit => PS3
The cells of the panel do not light normally.
Is the VADR voltage within the specified values?
No
Replace the POWER SUPPLY Unit.
The specified voltage values are between 57 and 63 V.
Yes
Is there a fluctuation in the VADR voltage?
Yes
Replace the POWER SUPPLY Unit.
The ripple must be within 5 V.
No
Is the VSUS voltage within the specified range?
No
Replace the POWER SUPPLY Unit.
The specified voltage values are between 205 and 215 V (VSU: 125/35°C).
Yes
Is there a fluctuation in the VSUS voltage?
Yes
Replace the POWER SUPPLY Unit.
The ripple must be within 10 V.
No
The POWER SUPPLY Unit is normal.

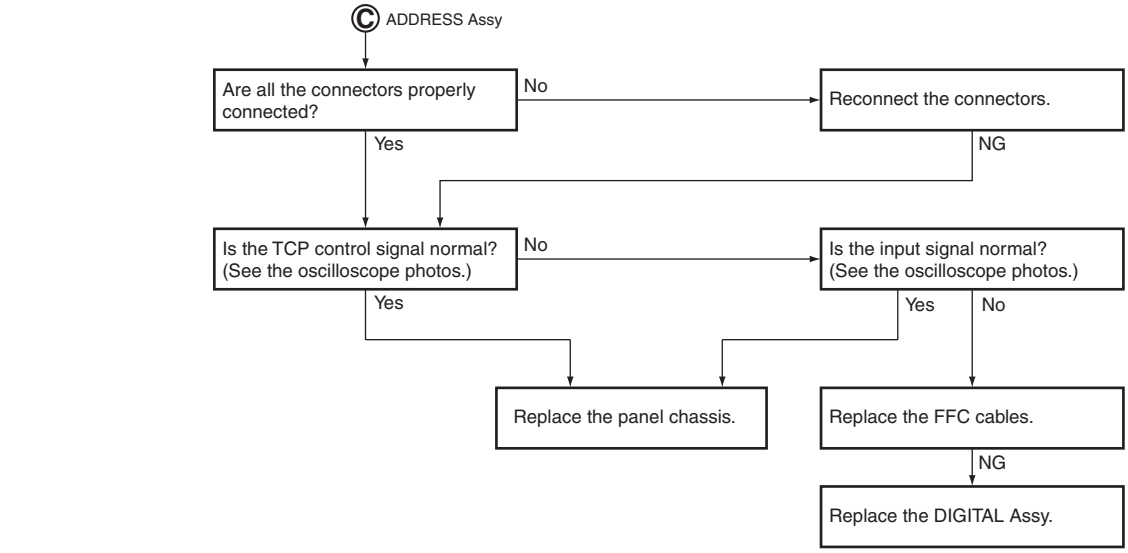
5.2.3 DRIVE ASSY

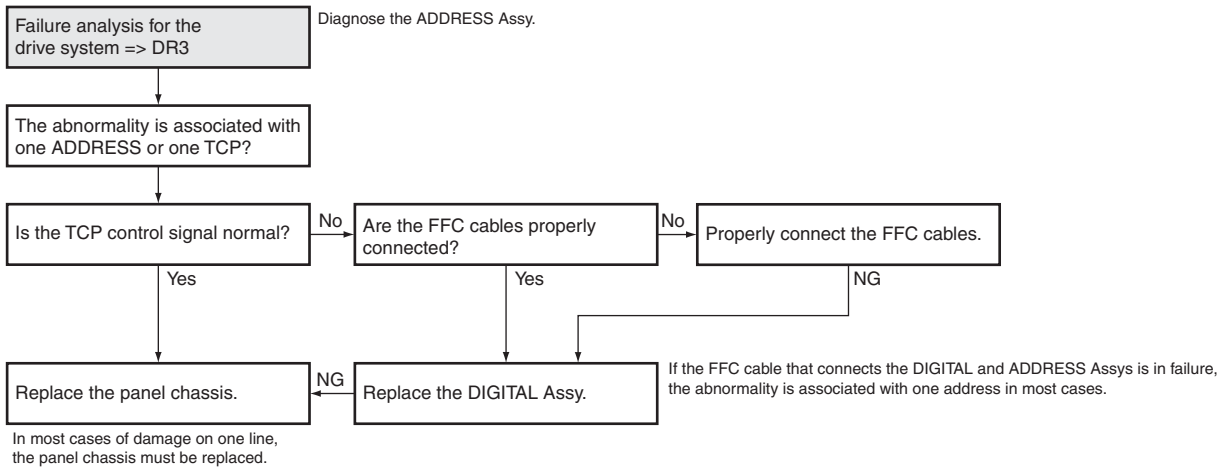
Flowchart of Failure Analysis for The Drive Assy

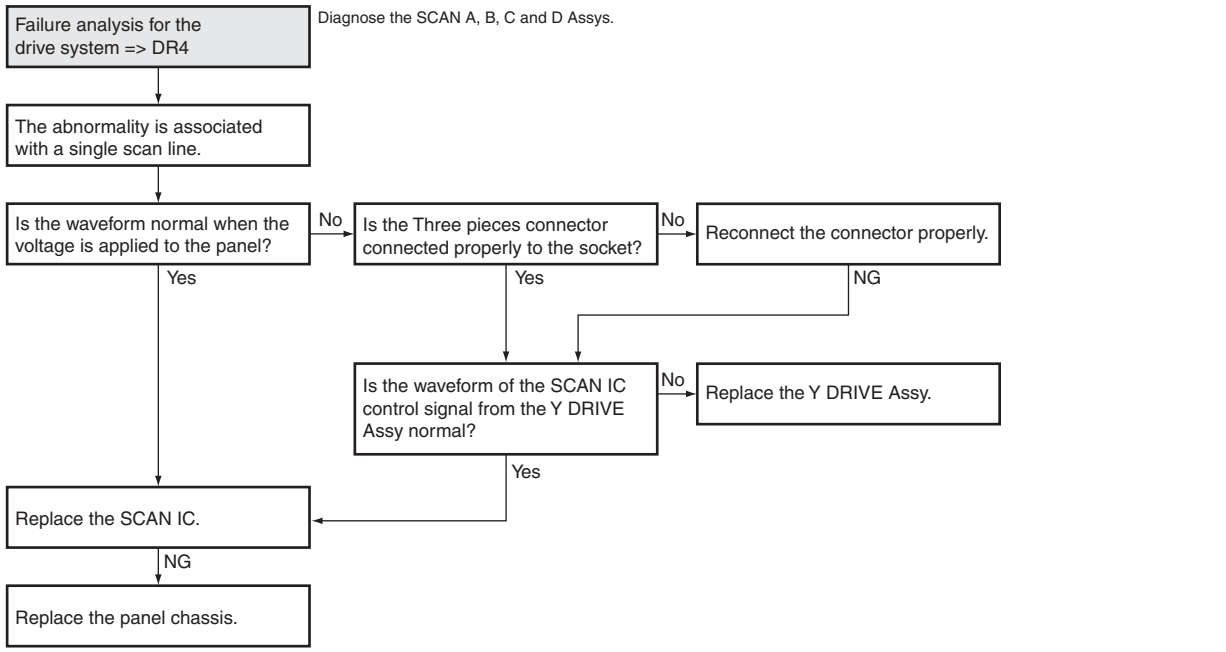

Failure analysis for the drive system => DR1
Reset lighting is not displayed.
X/Y DRIVE Assys
Is the waveform normal when the voltage is applied to the panel?
No
Yes
Are the panel FPC and SCAN Assys connectors properly connected to the X/Y DRIVE Assys?
No
Properly connect the panel FPC and SCAN Assys connectors.
NG
Yes
Replace the panel chassis.
Are the FFC cables properly connected?
No
Properly connect the FFC cables.
Yes
NG
Is the input signal normal?
No
Replace the FFC cables.
Yes
NG
Replace the X/Y DRIVE Assys.
Replace the DIGITAL Assy.


Failure analysis for the drive system => DR2
Abnormality across the whole screen, such as luminescent spots
Because it is difficult to identify which drive is in failure, follow the flowchart below to check each Assy.
Y DRIVE Assy / SCAN A, B, C, D Assys
X DRIVE Assy
ADDRESS Assy
Y DRIVE Assy
Ⓑ
Ⓒ
Are all the connectors properly connected?
No
Reconnect the connectors.
NG
Yes
Is the VH set voltage (130 V) correctly set?
No
Set the VH voltage correctly.
NG
Yes
Is the VSNOFS set voltage correctly set (set value: designated for each panel)?
No
Set the VSNOFS voltage correctly.
NG
Yes
Is the VYRST set voltage correctly set (set value: designated for each panel)?
No
Set the VYRST voltage correctly.
NG
Yes
Is the VKNOFS1, 2 set voltage correctly set?
No
Set the VKNOFS1, 2 voltage correctly.
NG
Yes
Is the VKNOFS3 set voltage correctly set (set value: designated for each panel)?
No
Set the VKNOFS3 voltage correctly.
NG
Yes
Is the VKNOFS4 set voltage correctly set (set value: designated for each panel)?
No
Set the VKNOFS 4voltage correctly.
NG
Yes
Another Assy may be in failure.
Yes
Is the waveform normal when the voltage is applied to the panel? (See the oscilloscope photos.)
No
Is the input signal normal? (See the oscilloscope photos.)
No
Replace the FFC cables.
NG
Replace the DIGITAL Assy.
Yes
Ⓓ
Is the waveform of the control signal from the SCAN Assy normal? (See the oscilloscope photos.)
No
Replace the Y DRIVE Assy.
Yes
Replace the SCAN IC.


Ⓑ X DRIVE Assy
Are all the connectors properly connected?
No
Reconnect the connectors.
Yes
NG
Is the VXKOFS1 set voltage correctly set?
No
Set the VXKOFS1 voltage correctly.
Yes
NG
Is the VXKOFS2 set voltage correctly set?
No
Set the VXKOFS2 voltage correctly.
Yes
NG
Ⓓ
Another Assy may be in failure.
Yes
Is the waveform normal when the voltage is applied to the panel? (See the oscilloscope photos.)
No
Is the input signal normal? (See the oscilloscope photos.)
No
Replace the FFC cables.
Yes
NG
Replace the X DRIVE Assy.
Replace the DIGITAL Assy.

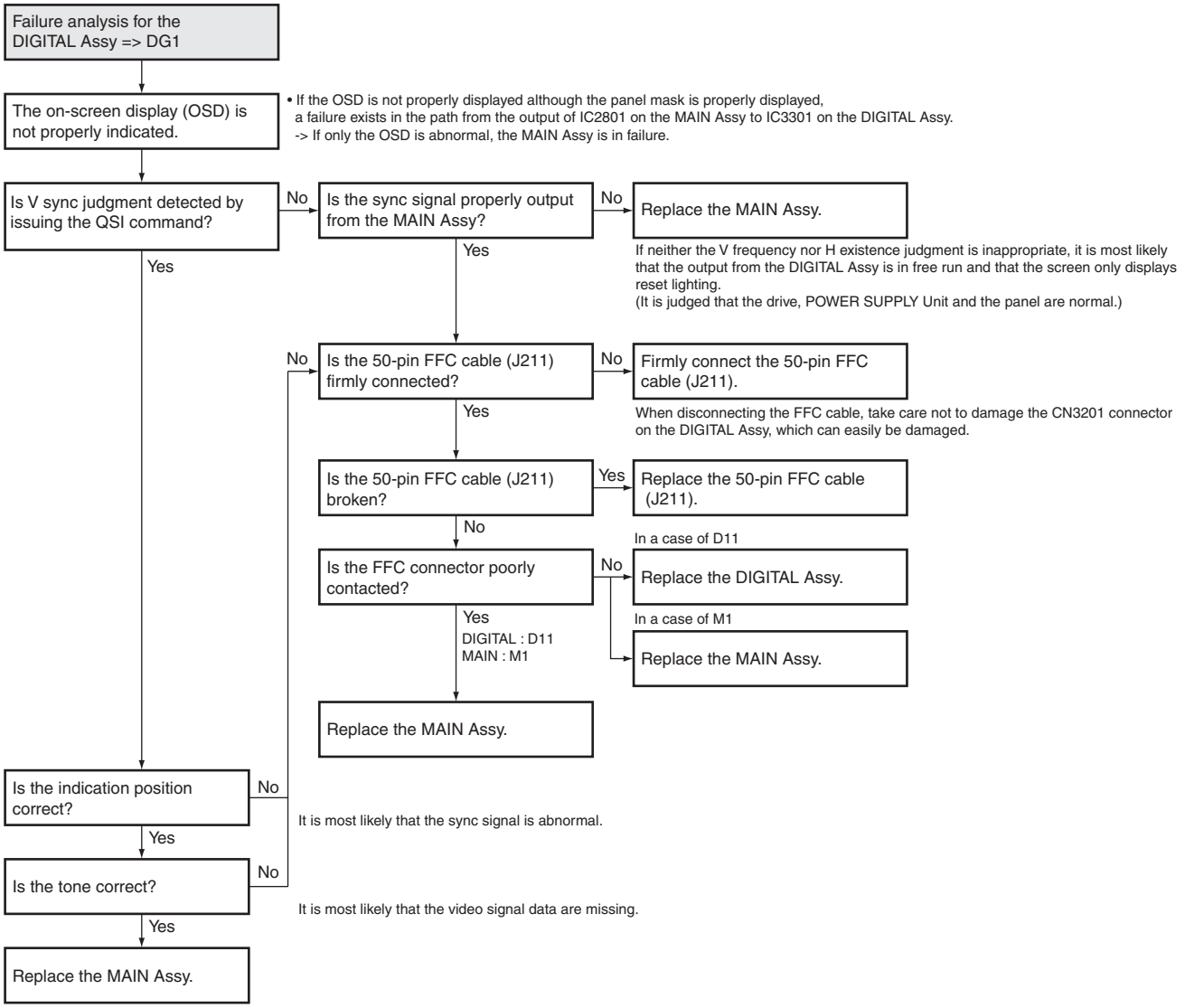

Ⓒ ADDRESS Assy
Are all the connectors properly connected?
No
Reconnect the connectors.
Yes
NG
Is the TCP control signal normal? (See the oscilloscope photos.)
No
Is the input signal normal? (See the oscilloscope photos.)
Yes
Yes
No
Replace the panel chassis.
Replace the FFC cables.
NG
Replace the DIGITAL Assy.


Failure analysis for the drive system => DR3
Diagnose the ADDRESS Assy.
The abnormality is associated with one ADDRESS or one TCP?
Is the TCP control signal normal?
No
Are the FFC cables properly connected?
No
Properly connect the FFC cables.
Yes
Yes
NG
Replace the panel chassis.
NG
Replace the DIGITAL Assy.
If the FFC cable that connects the DIGITAL and ADDRESS Assys is in failure, the abnormality is associated with one address in most cases.
In most cases of damage on one line, the panel chassis must be replaced.


Failure analysis for the drive system => DR4
Diagnose the SCAN A, B, C and D Assys.
The abnormality is associated with a single scan line.
Is the waveform normal when the voltage is applied to the panel?
No
Is the Three pieces connector connected properly to the socket?
No
Reconnect the connector properly.
Yes
Yes
NG
Is the waveform of the SCAN IC control signal from the Y DRIVE Assy normal?
No
Replace the Y DRIVE Assy.
Yes
Replace the SCAN IC.
NG
Replace the panel chassis.

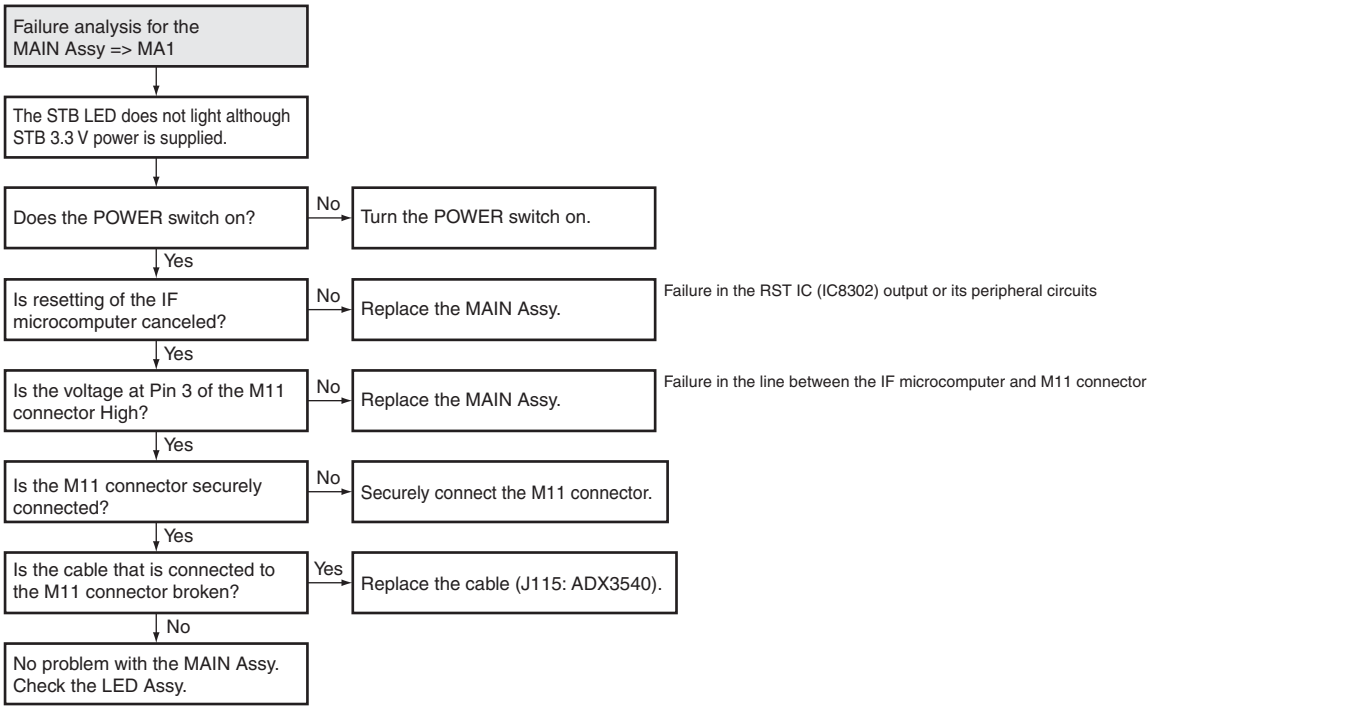
5.2.4 DIGITAL ASSY

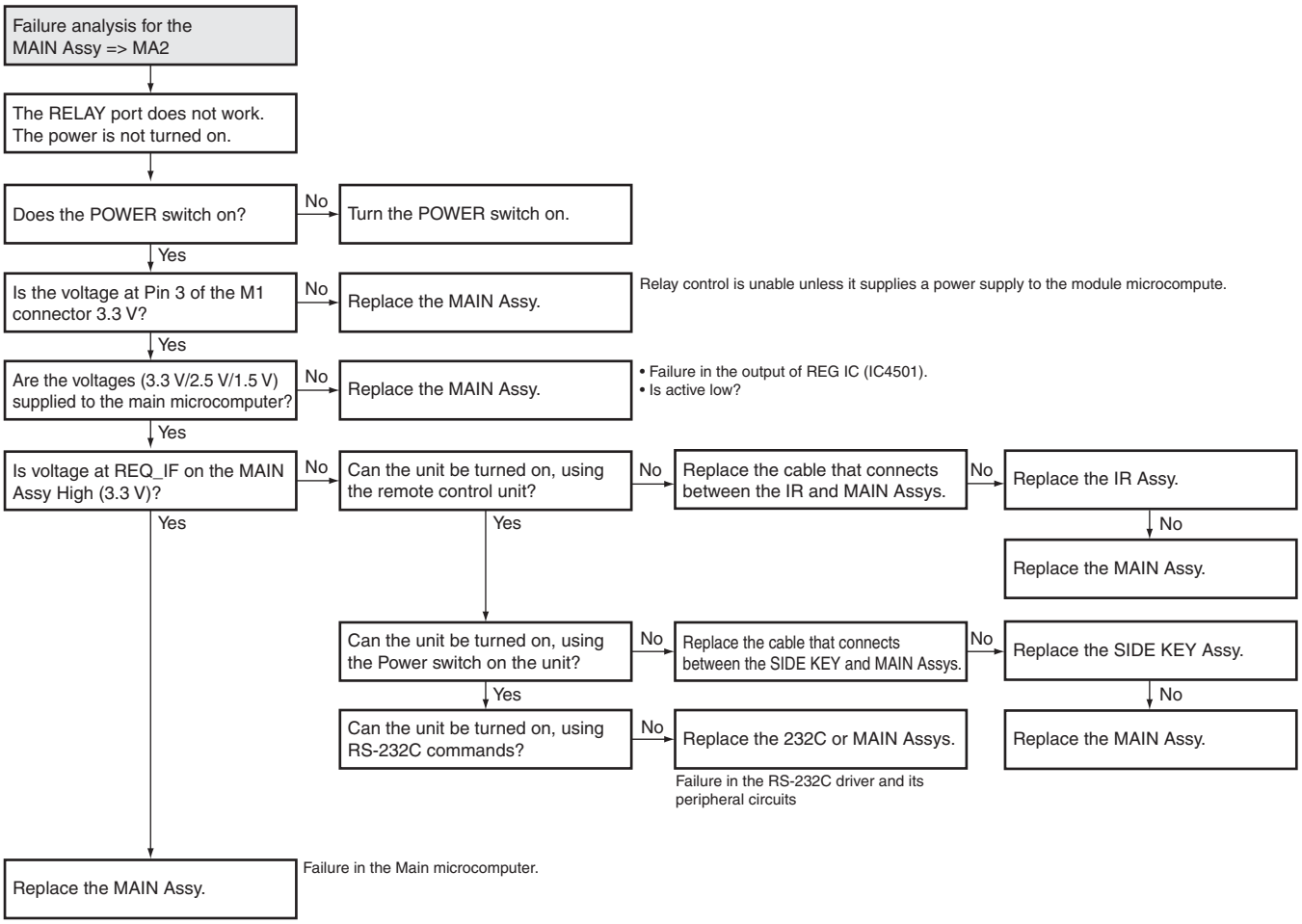
Flowchart of Failure Analysis for The DIGITAL Assy


Failure analysis for the DIGITAL Assy => DG1
The on-screen display (OSD) is not properly indicated.
• If the OSD is not properly displayed although the panel mask is properly displayed, a failure exists in the path from the output of IC2801 on the MAIN Assy to IC3301 on the DIGITAL Assy.
-> If only the OSD is abnormal, the MAIN Assy is in failure.
Is V sync judgment detected by issuing the QSI command?
No
Is the sync signal properly output from the MAIN Assy?
No
Replace the MAIN Assy.
Yes
If neither the V frequency nor H existence judgment is inappropriate, it is most likely that the output from the DIGITAL Assy is in free run and that the screen only displays reset lighting.
(It is judged that the drive, POWER SUPPLY Unit and the panel are normal.)
Yes
No
Is the 50-pin FFC cable (J211) firmly connected?
No
Firmly connect the 50-pin FFC cable (J211).
Yes
When disconnecting the FFC cable, take care not to damage the CN3201 connector on the DIGITAL Assy, which can easily be damaged.
Is the 50-pin FFC cable (J211) broken?
Yes
Replace the 50-pin FFC cable (J211).
No
In a case of D11
Is the FFC connector poorly contacted?
No
Replace the DIGITAL Assy.
Yes
DIGITAL : D11
MAIN : M1
In a case of M1
Replace the MAIN Assy.
Replace the MAIN Assy.
Is the indication position correct?
No
It is most likely that the sync signal is abnormal.
Yes
Is the tone correct?
No
It is most likely that the video signal data are missing.
Yes
Replace the MAIN Assy.

5.2.5 MAIN ASSY

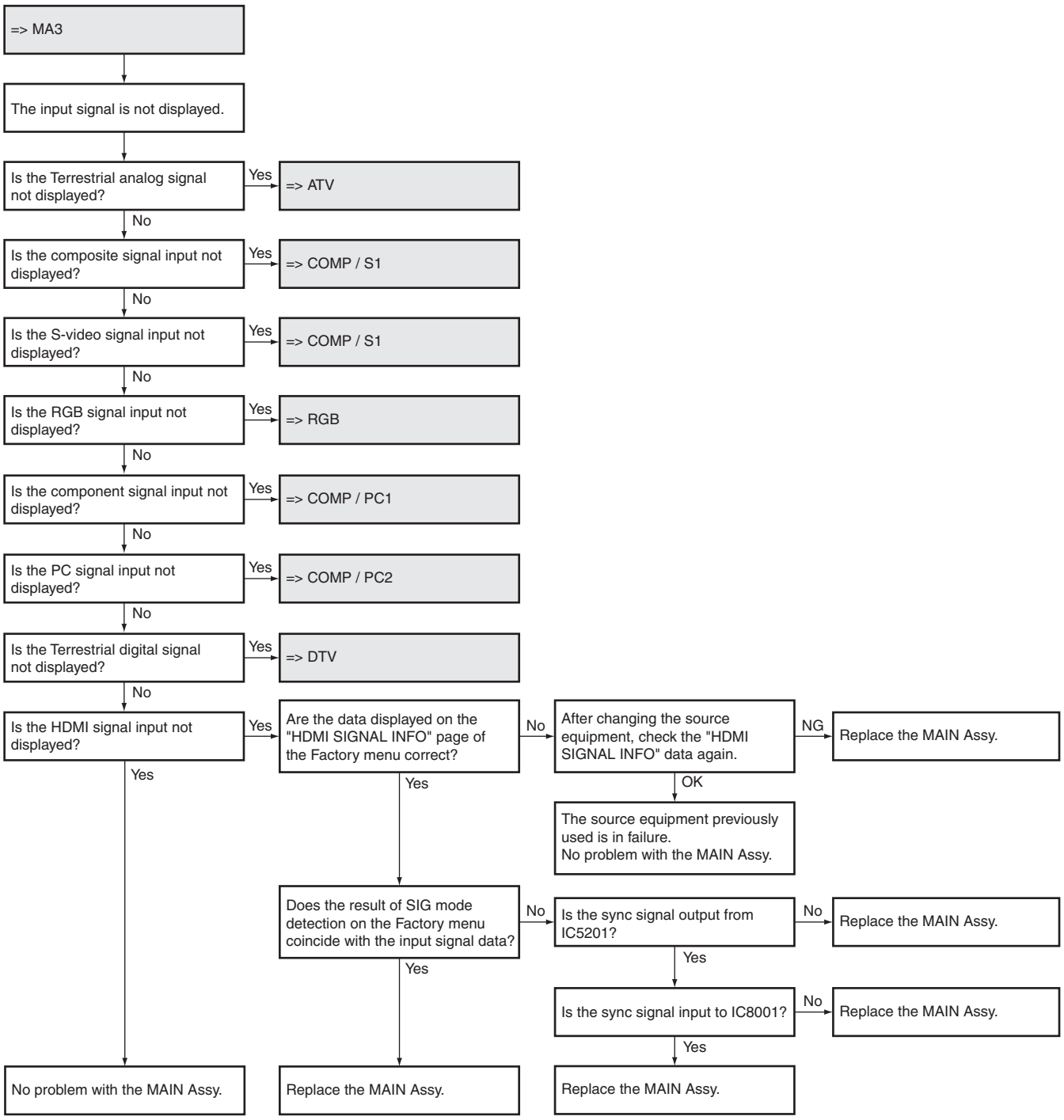
Flowchart of Failure Analysis for The MAIN Assy


Failure analysis for the MAIN Assy => MA1
The STB LED does not light although STB 3.3 V power is supplied.
Does the POWER switch on?
No
Turn the POWER switch on.
Yes
Is resetting of the IF microcomputer canceled?
No
Replace the MAIN Assy.
Failure in the RST IC (IC8302) output or its peripheral circuits
Yes
Is the voltage at Pin 3 of the M11 connector High?
No
Replace the MAIN Assy.
Failure in the line between the IF microcomputer and M11 connector
Yes
Is the M11 connector securely connected?
No
Securely connect the M11 connector.
Yes
Is the cable that is connected to the M11 connector broken?
Yes
Replace the cable (J115: ADX3540).
No
No problem with the MAIN Assy. Check the LED Assy.

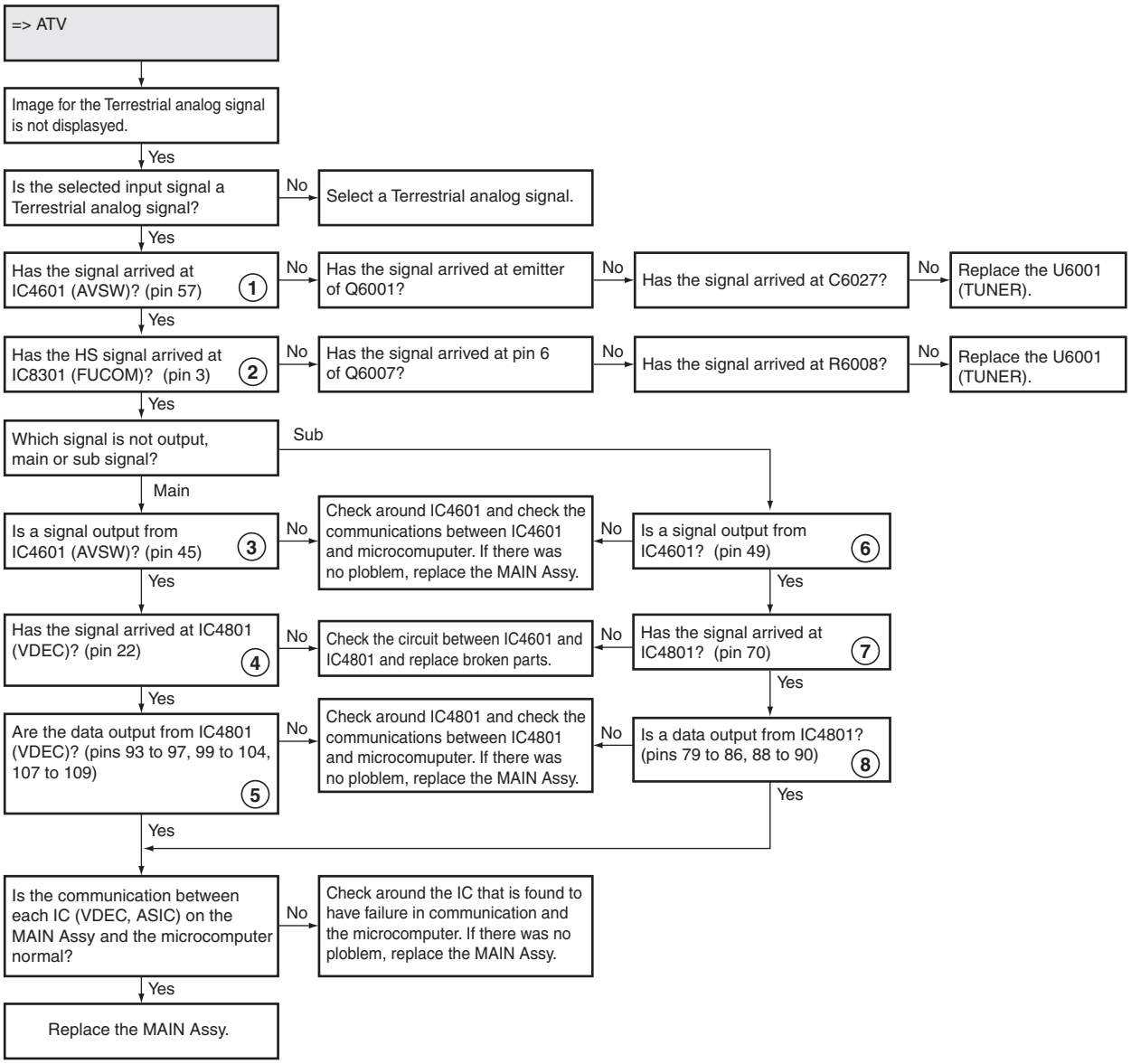

Failure analysis for the MAIN Assy => MA2
The RELAY port does not work. The power is not turned on.
Does the POWER switch on?
No
Turn the POWER switch on.
Yes
Is the voltage at Pin 3 of the M1 connector 3.3 V?
No
Replace the MAIN Assy.
Relay control is unable unless it supplies a power supply to the module microcompute.
Yes
Are the voltages (3.3 V/2.5 V/1.5 V) supplied to the main microcomputer?
No
Replace the MAIN Assy.
• Failure in the output of REG IC (IC4501).
• Is active low?
Yes
Is voltage at REQ_IF on the MAIN Assy High (3.3 V)?
No
Can the unit be turned on, using the remote control unit?
No
Replace the cable that connects between the IR and MAIN Assys.
No
Replace the IR Assy.
No
Replace the MAIN Assy.
Yes
Yes
Can the unit be turned on, using the Power switch on the unit?
No
Replace the cable that connects between the SIDE KEY and MAIN Assys.
No
Replace the SIDE KEY Assy.
No
Replace the MAIN Assy.
Yes
Can the unit be turned on, using RS-232C commands?
No
Replace the 232C or MAIN Assys.
Failure in the RS-232C driver and its peripheral circuits
Yes
Replace the MAIN Assy.
Failure in the Main microcomputer.

5.2.6 VIDEO SYSTEM

Flowchart of Failure Analysis for The Video System

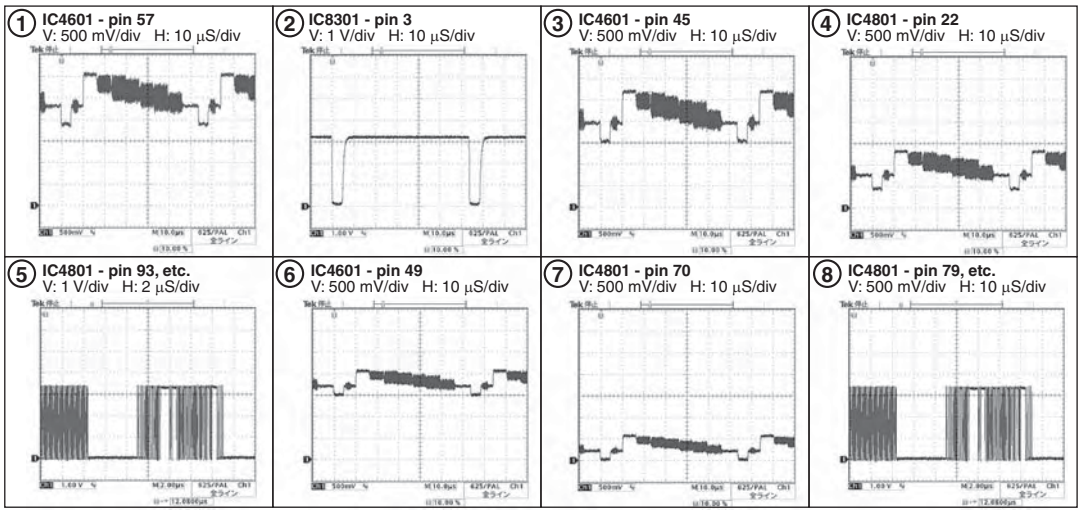


Flowchart of Failure Analysis for The Video System

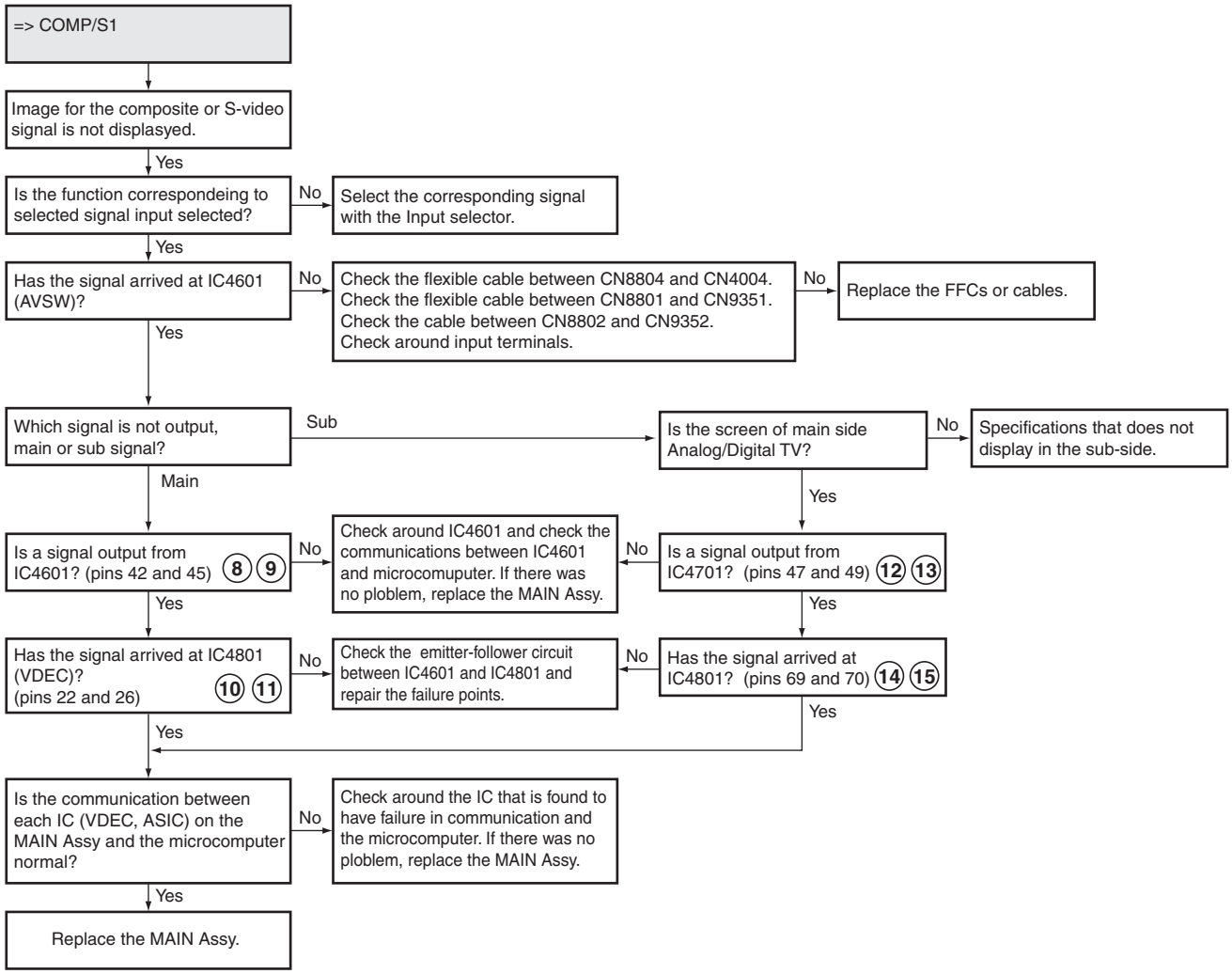

=> ATV
Image for the Terrestrial analog signal is not displayed.
Yes
Is the selected input signal a Terrestrial analog signal?
No
Select a Terrestrial analog signal.
Yes
Has the signal arrived at IC4601 (AVSW)? (pin 57) 1
No
Has the signal arrived at emitter of Q6001?
No
Has the signal arrived at C6027?
No
Replace the U6001 (TUNER).
Yes
Has the HS signal arrived at IC8301 (FUCOM)? (pin 3) 2
No
Has the signal arrived at pin 6 of Q6007?
No
Has the signal arrived at R6008?
No
Replace the U6001 (TUNER).
Yes
Which signal is not output, main or sub signal?
Sub
Main
Is a signal output from IC4601 (AVSW)? (pin 45) 3
No
Check around IC4601 and check the communications between IC4601 and microcomuputer. If there was no ploblem, replace the MAIN Assy.
No
Is a signal output from IC4601? (pin 49) 6
Yes
Yes
Has the signal arrived at IC4801 (VDEC)? (pin 22) 4
No
Check the circuit between IC4601 and IC4801 and replace broken parts.
No
Has the signal arrived at IC4801? (pin 70) 7
Yes
Yes
Are the data output from IC4801 (VDEC)? (pins 93 to 97, 99 to 104, 107 to 109) 5
No
Check around IC4801 and check the communications between IC4801 and microcomuputer. If there was no ploblem, replace the MAIN Assy.
No
Is a data output from IC4801? (pins 79 to 86, 88 to 90) 8
Yes
Yes
Is the communication between each IC (VDEC, ASIC) on the MAIN Assy and the microcomputer normal?
No
Check around the IC that is found to have failure in communication and the microcomputer. If there was no ploblem, replace the MAIN Assy.
Yes
Replace the MAIN Assy.

● Waveforms

Input signal: PAL Color-bar (Analog tuner)

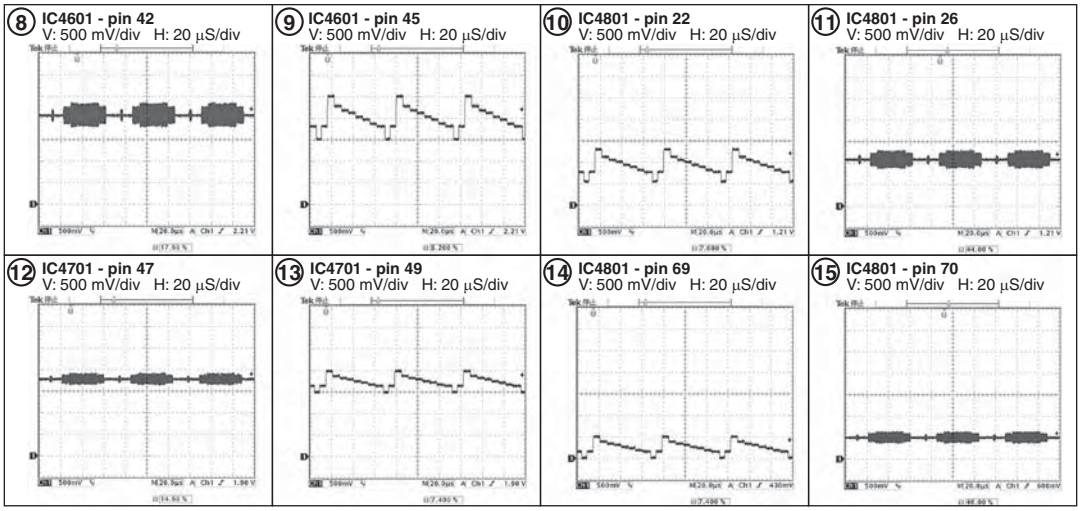

1 IC4601 - pin 57
V: 500 mV/div H: 10 µS/div
2 IC8301 - pin 3
V: 1 V/div H: 10 µS/div
3 IC4601 - pin 45
V: 500 mV/div H: 10 µS/div
4 IC4801 - pin 22
V: 500 mV/div H: 10 µS/div
5 IC4801 - pin 93, etc.
V: 1 V/div H: 2 µS/div
6 IC4601 - pin 49
V: 500 mV/div H: 10 µS/div
7 IC4801 - pin 70
V: 500 mV/div H: 10 µS/div
8 IC4801 - pin 79, etc.
V: 500 mV/div H: 10 µS/div

Flowchart of Failure Analysis for The Video System

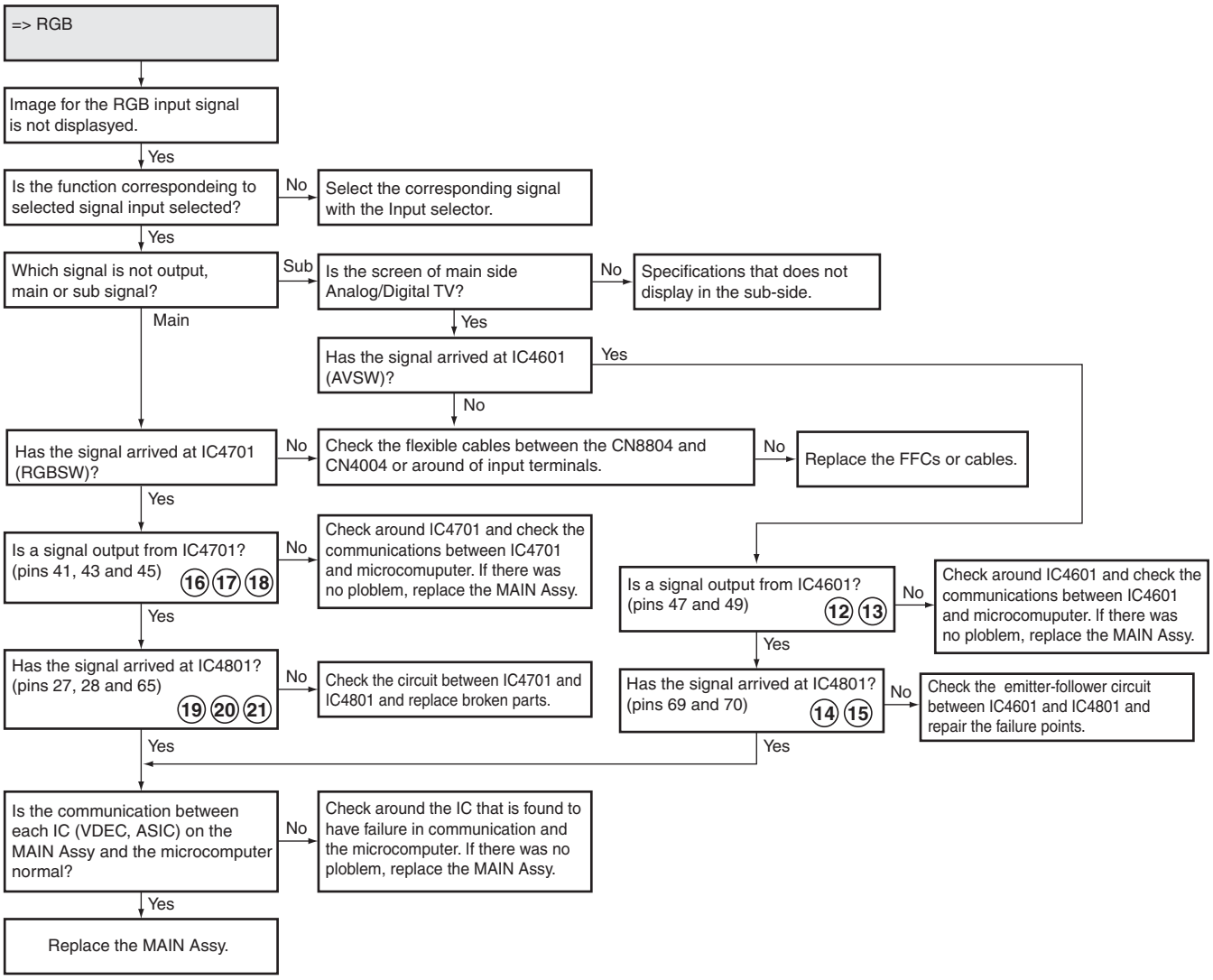

=> COMP/S1
Image for the composite or S-video signal is not displayed.
Yes
Is the function correspondeing to selected signal input selected?
No
Select the corresponding signal with the Input selector.
Yes
Has the signal arrived at IC4601 (AVSW)?
No
Check the flexible cable between CN8804 and CN4004.
Check the flexible cable between CN8801 and CN9351.
Check the cable between CN8802 and CN9352.
Check around input terminals.
No
Replace the FFCs or cables.
Yes
Which signal is not output, main or sub signal?
Sub
Is the screen of main side Analog/Digital TV?
No
Specifications that does not display in the sub-side.
Yes
Main
Is a signal output from IC4601? (pins 42 and 45) 8 9
No
Check around IC4601 and check the communications between IC4601 and microcomuputer. If there was no ploblem, replace the MAIN Assy.
No
Is a signal output from IC4701? (pins 47 and 49) 12 13
Yes
Yes
Has the signal arrived at IC4801 (VDEC)? (pins 22 and 26) 10 11
No
Check the emitter-follower circuit between IC4601 and IC4801 and repair the failure points.
No
Has the signal arrived at IC4801? (pins 69 and 70) 14 15
Yes
Yes
Is the communication between each IC (VDEC, ASIC) on the MAIN Assy and the microcomputer normal?
No
Check around the IC that is found to have failure in communication and the microcomputer. If there was no ploblem, replace the MAIN Assy.
Yes
Replace the MAIN Assy.

● Waveforms

Input signal: PAL Color-bar (S terminal)

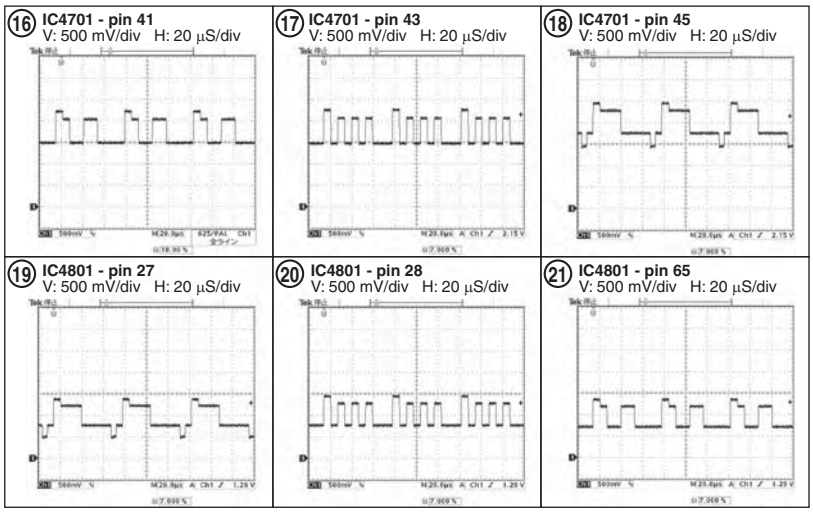

8 IC4601 - pin 42
V: 500 mV/div H: 20 µS/div
9 IC4601 - pin 45
V: 500 mV/div H: 20 µS/div
10 IC4801 - pin 22
V: 500 mV/div H: 20 µS/div
11 IC4801 - pin 26
V: 500 mV/div H: 20 µS/div
12 IC4701 - pin 47
V: 500 mV/div H: 20 µS/div
13 IC4701 - pin 49
V: 500 mV/div H: 20 µS/div
14 IC4801 - pin 69
V: 500 mV/div H: 20 µS/div
15 IC4801 - pin 70
V: 500 mV/div H: 20 µS/div

Flowchart of Failure Analysis for The Video System

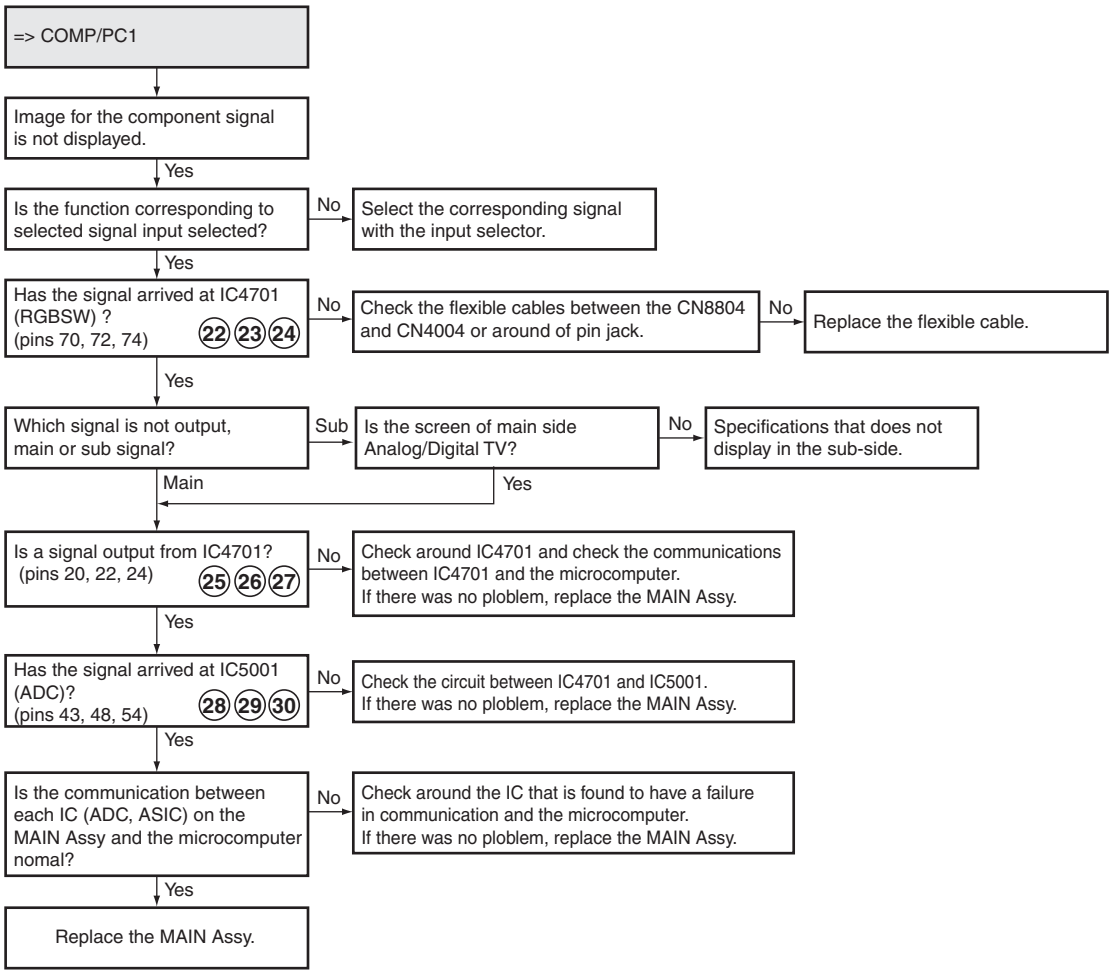

=> RGB
Image for the RGB input signal is not displayed.
Yes
Is the function correspondeing to selected signal input selected?
No
Select the corresponding signal with the Input selector.
Yes
Which signal is not output, main or sub signal?
Sub
Is the screen of main side Analog/Digital TV?
No
Specifications that does not display in the sub-side.
Main
Yes
Has the signal arrived at IC4601 (AVSW)?
Yes
No
Has the signal arrived at IC4701 (RGBSW)?
No
Check the flexible cables between the CN8804 and CN4004 or around of input terminals.
No
Replace the FFCs or cables.
Yes
Is a signal output from IC4701? (pins 41, 43 and 45) 16 17 18
No
Check around IC4701 and check the communications between IC4701 and microcomuputer. If there was no ploblem, replace the MAIN Assy.
Yes
Has the signal arrived at IC4801? (pins 27, 28 and 65) 19 20 21
No
Check the circuit between IC4701 and IC4801 and replace broken parts.
Yes
Is the communication between each IC (VDEC, ASIC) on the MAIN Assy and the microcomputer normal?
No
Check around the IC that is found to have failure in communication and the microcomputer. If there was no ploblem, replace the MAIN Assy.
Yes
Replace the MAIN Assy.
Is a signal output from IC4601? (pins 47 and 49) 12 13
No
Check around IC4601 and check the communications between IC4601 and microcomuputer. If there was no ploblem, replace the MAIN Assy.
Yes
Has the signal arrived at IC4801? (pins 69 and 70) 14 15
No
Check the emitter-follower circuit between IC4601 and IC4801 and repair the failure points.
Yes

● Waveforms

Input signal: PAL Color-bar (SCART RGB terminal)

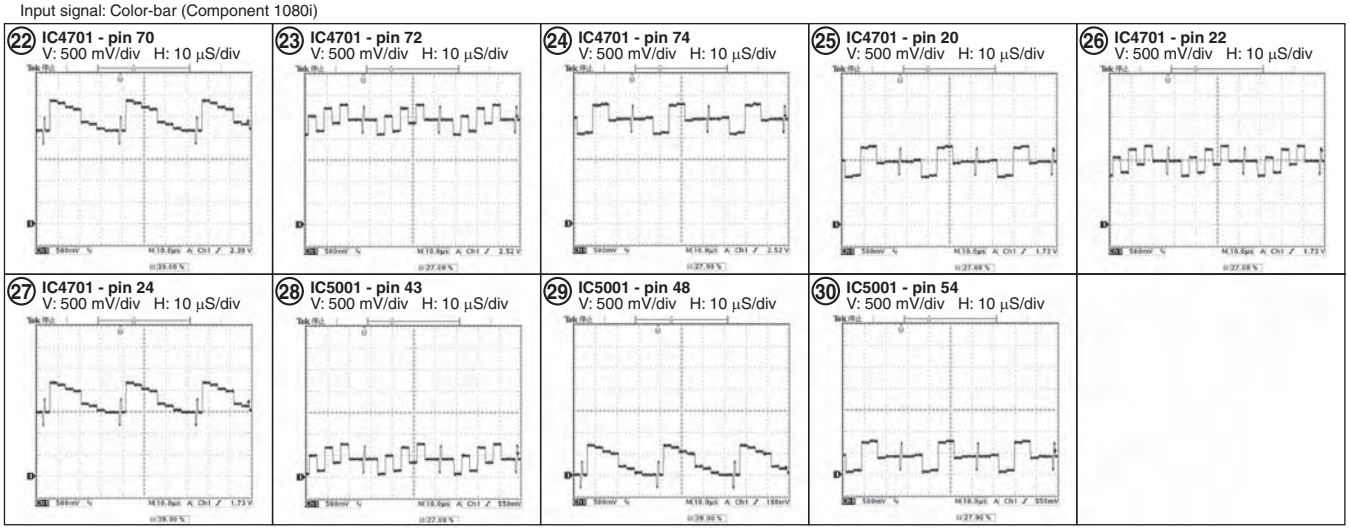

16 IC4701 - pin 41
V: 500 mV/div H: 20 µS/div
17 IC4701 - pin 43
V: 500 mV/div H: 20 µS/div
18 IC4701 - pin 45
V: 500 mV/div H: 20 µS/div
19 IC4801 - pin 27
V: 500 mV/div H: 20 µS/div
20 IC4801 - pin 28
V: 500 mV/div H: 20 µS/div
21 IC4801 - pin 65
V: 500 mV/div H: 20 µS/div

Flowchart of Failure Analysis for The Video System


=> COMP/PC1
Image for the component signal is not displayed.
Yes
Is the function corresponding to selected signal input selected?
No
Select the corresponding signal with the input selector.
Yes
Has the signal arrived at IC4701 (RGBSW) ? (pins 70, 72, 74) 22 23 24
No
Check the flexible cables between the CN8804 and CN4004 or around of pin jack.
No
Replace the flexible cable.
Yes
Which signal is not output, main or sub signal?
Sub
Is the screen of main side Analog/Digital TV?
No
Specifications that does not display in the sub-side.
Main
Yes
Is a signal output from IC4701? (pins 20, 22, 24) 25 26 27
No
Check around IC4701 and check the communications between IC4701 and the microcomputer. If there was no ploblem, replace the MAIN Assy.
Yes
Has the signal arrived at IC5001 (ADC)? (pins 43, 48, 54) 28 29 30
No
Check the circuit between IC4701 and IC5001. If there was no ploblem, replace the MAIN Assy.
Yes
Is the communication between each IC (ADC, ASIC) on the MAIN Assy and the microcomputer nomal?
No
Check around the IC that is found to have a failure in communication and the microcomputer. If there was no ploblem, replace the MAIN Assy.
Yes
Replace the MAIN Assy.

● Waveforms

Input signal: Color-bar (Component 1080i)


22 IC4701 - pin 70
V: 500 mV/div H: 10 µS/div
23 IC4701 - pin 72
V: 500 mV/div H: 10 µS/div
24 IC4701 - pin 74
V: 500 mV/div H: 10 µS/div
25 IC4701 - pin 20
V: 500 mV/div H: 10 µS/div
26 IC4701 - pin 22
V: 500 mV/div H: 10 µS/div
27 IC4701 - pin 24
V: 500 mV/div H: 10 µS/div
28 IC5001 - pin 43
V: 500 mV/div H: 10 µS/div
29 IC5001 - pin 48
V: 500 mV/div H: 10 µS/div
30 IC5001 - pin 54
V: 500 mV/div H: 10 µS/div

Flowchart of Failure Analysis for The Video System

=> COMP/PC2

Image for the PC signal is not displayed.

Yes

Is the function corresponding to selected signal input selected? — No → Select the corresponding signal with the input selector.

Yes

Has the signal arrived at IC4701 (RGBSW)? (pins 61, 62, 64, 66, 68) ㉛ ㉜ ㉝ ㉞ ㉟ — No → Check around the input terminal (CN4701). If there was no ploblem, replace the MAIN Assy.

Yes

Which signal is not output, main or sub signal? — Sub → Is the screen of main side Analog/Digital TV? — No → Specifications that does not display in the sub-side.

Main / Yes

Is a signal output from IC4701? (pins 20, 22, 24) ㊱ ㊲ ㊳ — No → Check around IC4701 and check the communications between IC4701 and the microcomputer. If there was no ploblem, replace the MAIN Assy.

Yes

Has the signal arrived at IC5001 (ADC)? (pins 43, 48, 54) ㊴ ㊵ ㊶ — No → Check the circuit between IC4701 and IC5001. If there was no ploblem, replace the MAIN Assy.

Yes

Is the communication between each IC (ADC, ASIC) on the MAIN Assy and the microcomputer nomal? — No → Check around the IC that is found to have a failure in communication and the microcomputer. If there was no ploblem, replace the MAIN Assy.

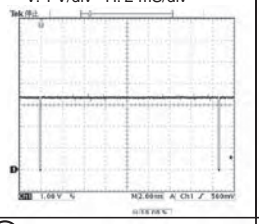
Yes

Replace the MAIN Assy.

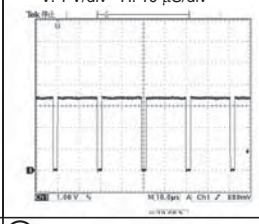
● Waveforms

Input signal: Color-bar (PC XGA/60 Hz)

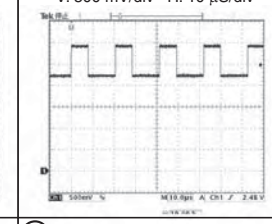
㉛ **IC4701 - pin 61** V: 1 V/div H: 2 mS/div



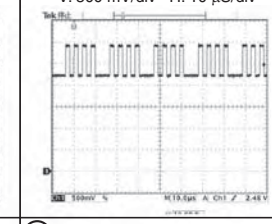
㉜ **IC4701 - pin 62** V: 1 V/div H: 10 µS/div



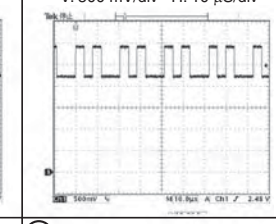
㉝ **IC4701 - pin 64** V: 500 mV/div H: 10 µS/div



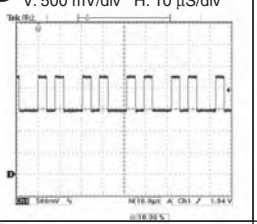
㉞ **IC4701 - pin 66** V: 500 mV/div H: 10 µS/div



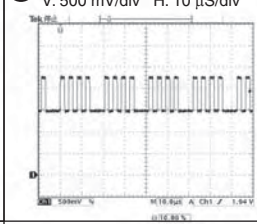
㉟ **IC4701 - pin 68** V: 500 mV/div H: 10 µS/div



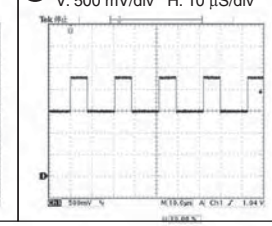
㊱ **IC4701 - pin 20** V: 500 mV/div H: 10 µS/div



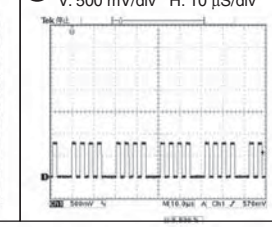
㊲ **IC4701 - pin 22** V: 500 mV/div H: 10 µS/div



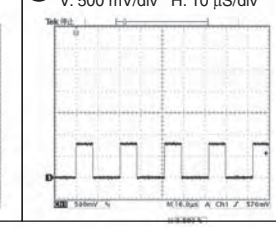
㊳ **IC4701 - pin 24** V: 500 mV/div H: 10 µS/div



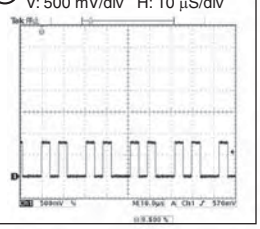
㊴ **IC5001 - pin 43** V: 500 mV/div H: 10 µS/div



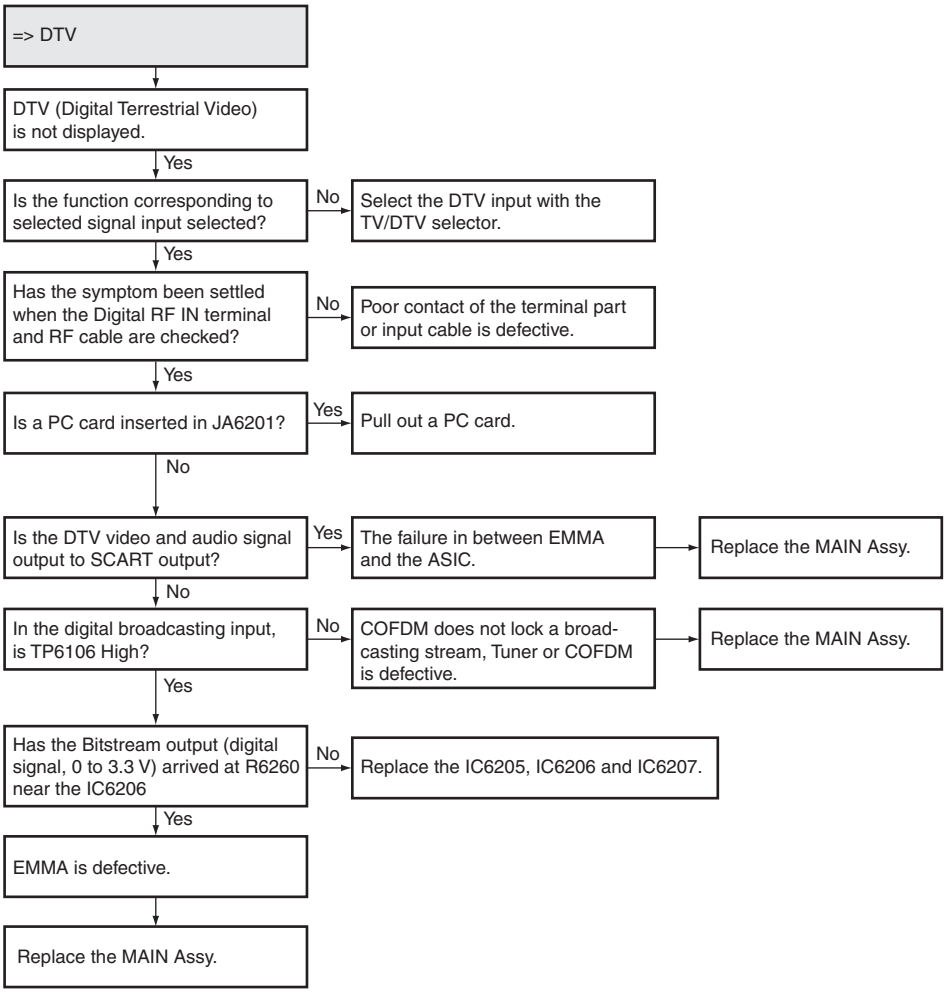
㊵ **IC5001 - pin 48** V: 500 mV/div H: 10 µS/div



㊶ **IC5001 - pin 54** V: 500 mV/div H: 10 µS/div

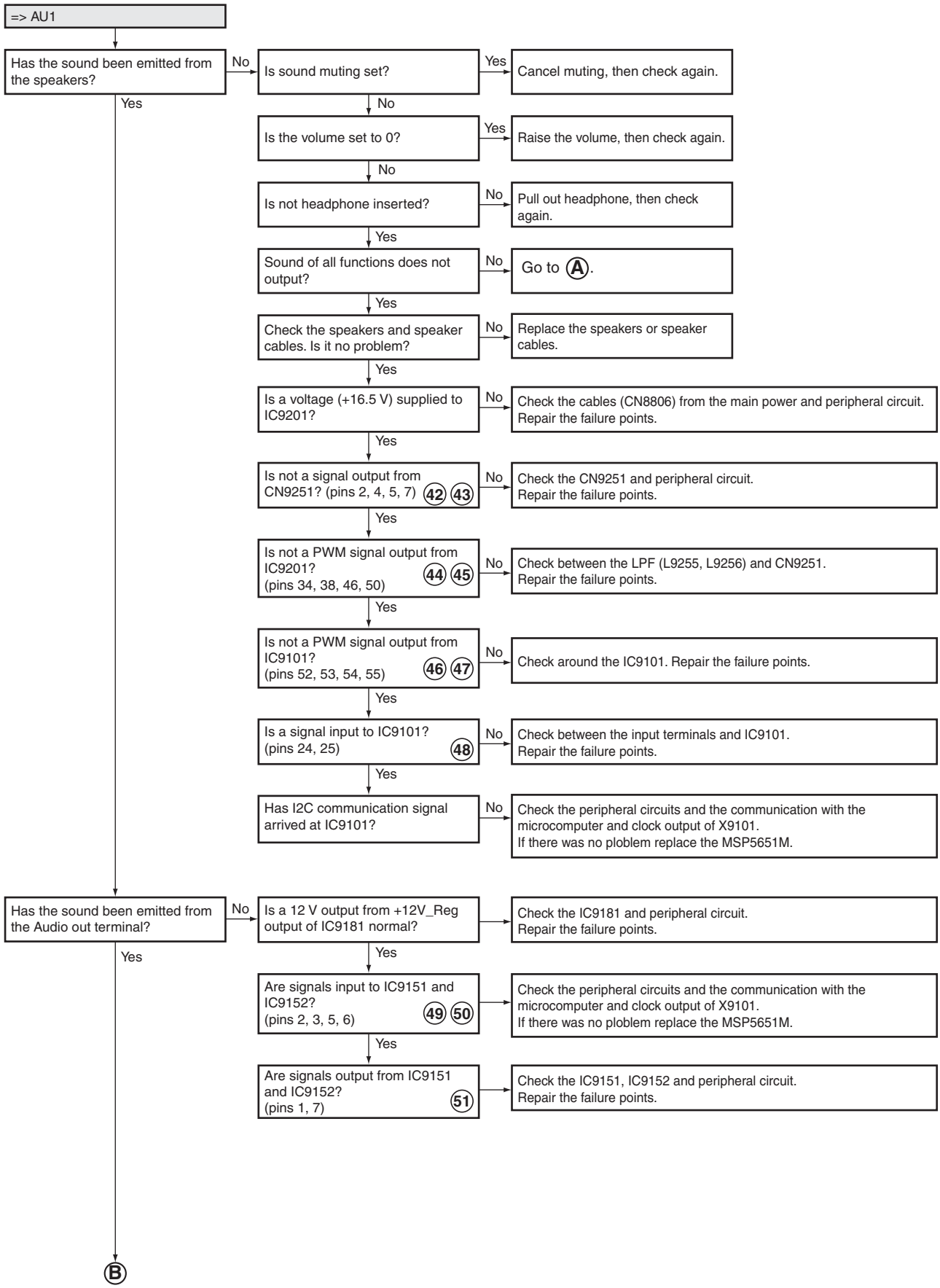


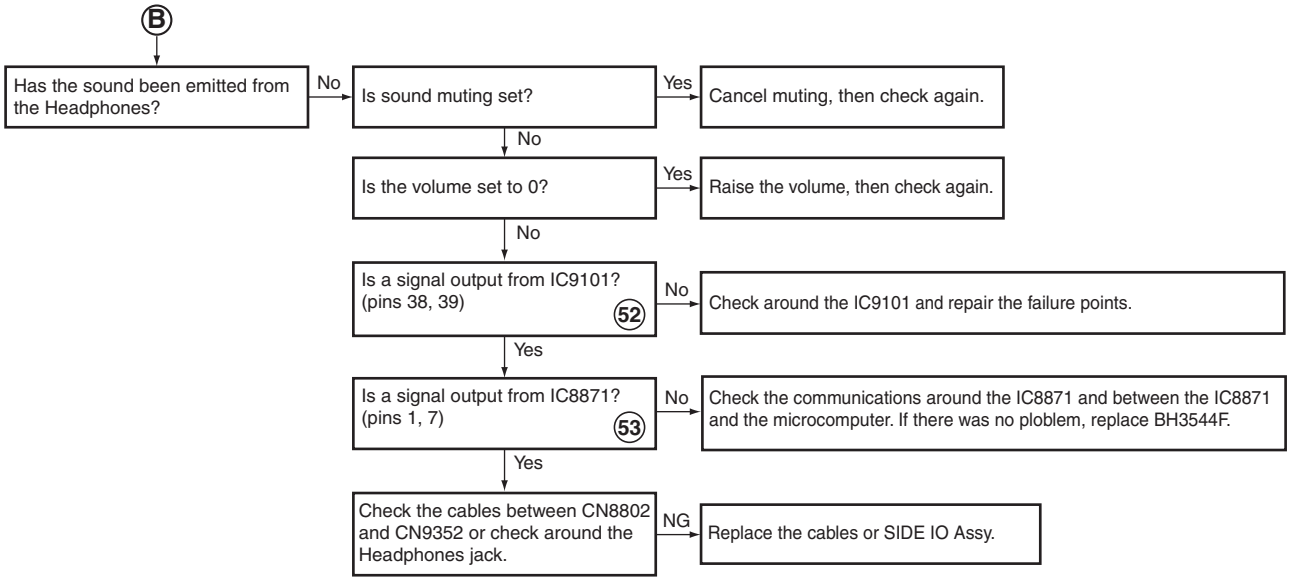
Flowchart of Failure Analysis for The Video System


=> DTV
DTV (Digital Terrestrial Video) is not displayed.
Yes
Is the function corresponding to selected signal input selected?
No
Select the DTV input with the TV/DTV selector.
Yes
Has the symptom been settled when the Digital RF IN terminal and RF cable are checked?
No
Poor contact of the terminal part or input cable is defective.
Yes
Is a PC card inserted in JA6201?
Yes
Pull out a PC card.
No
Is the DTV video and audio signal output to SCART output?
Yes
The failure in between EMMA and the ASIC.
Replace the MAIN Assy.
No
In the digital broadcasting input, is TP6106 High?
No
COFDM does not lock a broad-casting stream, Tuner or COFDM is defective.
Replace the MAIN Assy.
Yes
Has the Bitstream output (digital signal, 0 to 3.3 V) arrived at R6260 near the IC6206
No
Replace the IC6205, IC6206 and IC6207.
Yes
EMMA is defective.
Replace the MAIN Assy.

5.2.7 AUDIO SYSTEM

Flowchart of Failure Analysis for The Audio System

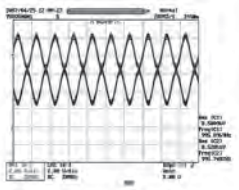

=> AU1
Has the sound been emitted from the speakers?
No
Is sound muting set?
Yes
Cancel muting, then check again.
Yes
No
Is the volume set to 0?
Yes
Raise the volume, then check again.
No
Is not headphone inserted?
No
Pull out headphone, then check again.
Yes
Sound of all functions does not output?
No
Go to Ⓐ.
Yes
Check the speakers and speaker cables. Is it no problem?
No
Replace the speakers or speaker cables.
Yes
Is a voltage (+16.5 V) supplied to IC9201?
No
Check the cables (CN8806) from the main power and peripheral circuit. Repair the failure points.
Yes
Is not a signal output from CN9251? (pins 2, 4, 5, 7) 42 43
No
Check the CN9251 and peripheral circuit. Repair the failure points.
Yes
Is not a PWM signal output from IC9201? (pins 34, 38, 46, 50) 44 45
No
Check between the LPF (L9255, L9256) and CN9251. Repair the failure points.
Yes
Is not a PWM signal output from IC9101? (pins 52, 53, 54, 55) 46 47
No
Check around the IC9101. Repair the failure points.
Yes
Is a signal input to IC9101? (pins 24, 25) 48
No
Check between the input terminals and IC9101. Repair the failure points.
Yes
Has I2C communication signal arrived at IC9101?
No
Check the peripheral circuits and the communication with the microcomputer and clock output of X9101. If there was no ploblem replace the MSP5651M.
Has the sound been emitted from the Audio out terminal?
No
Is a 12 V output from +12V_Reg output of IC9181 normal?
Check the IC9181 and peripheral circuit. Repair the failure points.
Yes
Are signals input to IC9151 and IC9152? (pins 2, 3, 5, 6) 49 50
Check the peripheral circuits and the communication with the microcomputer and clock output of X9101. If there was no ploblem replace the MSP5651M.
Yes
Are signals output from IC9151 and IC9152? (pins 1, 7) 51
Check the IC9151, IC9152 and peripheral circuit. Repair the failure points.
Yes
Ⓑ


B
Has the sound been emitted from the Headphones?
No
Is sound muting set?
Yes
Cancel muting, then check again.
No
Is the volume set to 0?
Yes
Raise the volume, then check again.
No
Is a signal output from IC9101? (pins 38, 39)
52
No
Check around the IC9101 and repair the failure points.
Yes
Is a signal output from IC8871? (pins 1, 7)
53
No
Check the communications around the IC8871 and between the IC8871 and the microcomputer. If there was no ploblem, replace BH3544F.
Yes
Check the cables between CN8802 and CN9352 or check around the Headphones jack.
NG
Replace the cables or SIDE IO Assy.

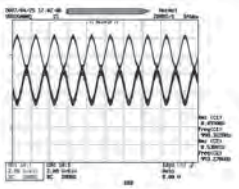
● Waveforms

Input signal: L/R 1 kHz, 0.5 Vrms (VOL 30)

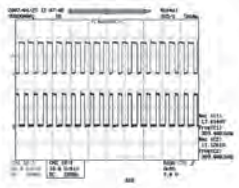
42 CN9251 - pins 2, 4
V: 2 V/div H: 1 mS/div



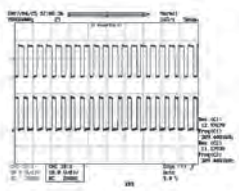
43 CN9251 - pins 5, 7
V: 2 V/div H: 1 mS/div



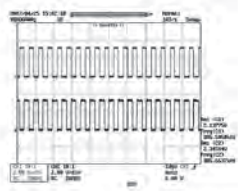
44 IC9201 - pins 34, 38
V: 10 V/div H: 5 µS/div



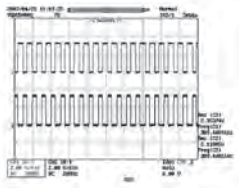
45 IC9201 - pins 44, 52
V: 10 V/div H: 5 µS/div



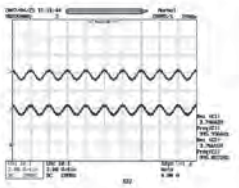
46 IC9101 - pins 52, 53
V: 2 V/div H: 5 µS/div



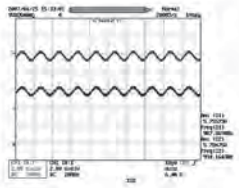
47 IC9101 - pins 54, 55
V: 2 V/div H: 5 µS/div



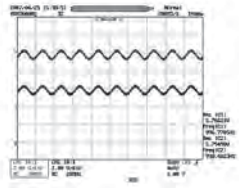
48 IC9101 - pins 24, 25
V: 2 V/div H: 1 mS/div



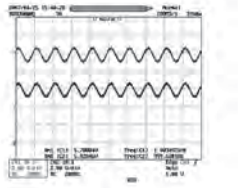
49 IC9151 - pins 2, 3
V: 2 V/div H: 1 mS/div



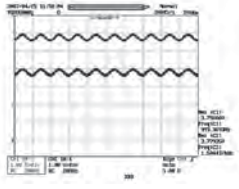
50 IC9151 - pins 5, 6
V: 2 V/div H: 1 mS/div



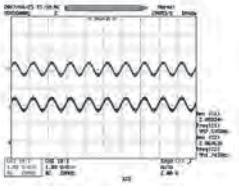
51 IC9151 - pin 1, etc.
V: 2 V/div H: 1 mS/div

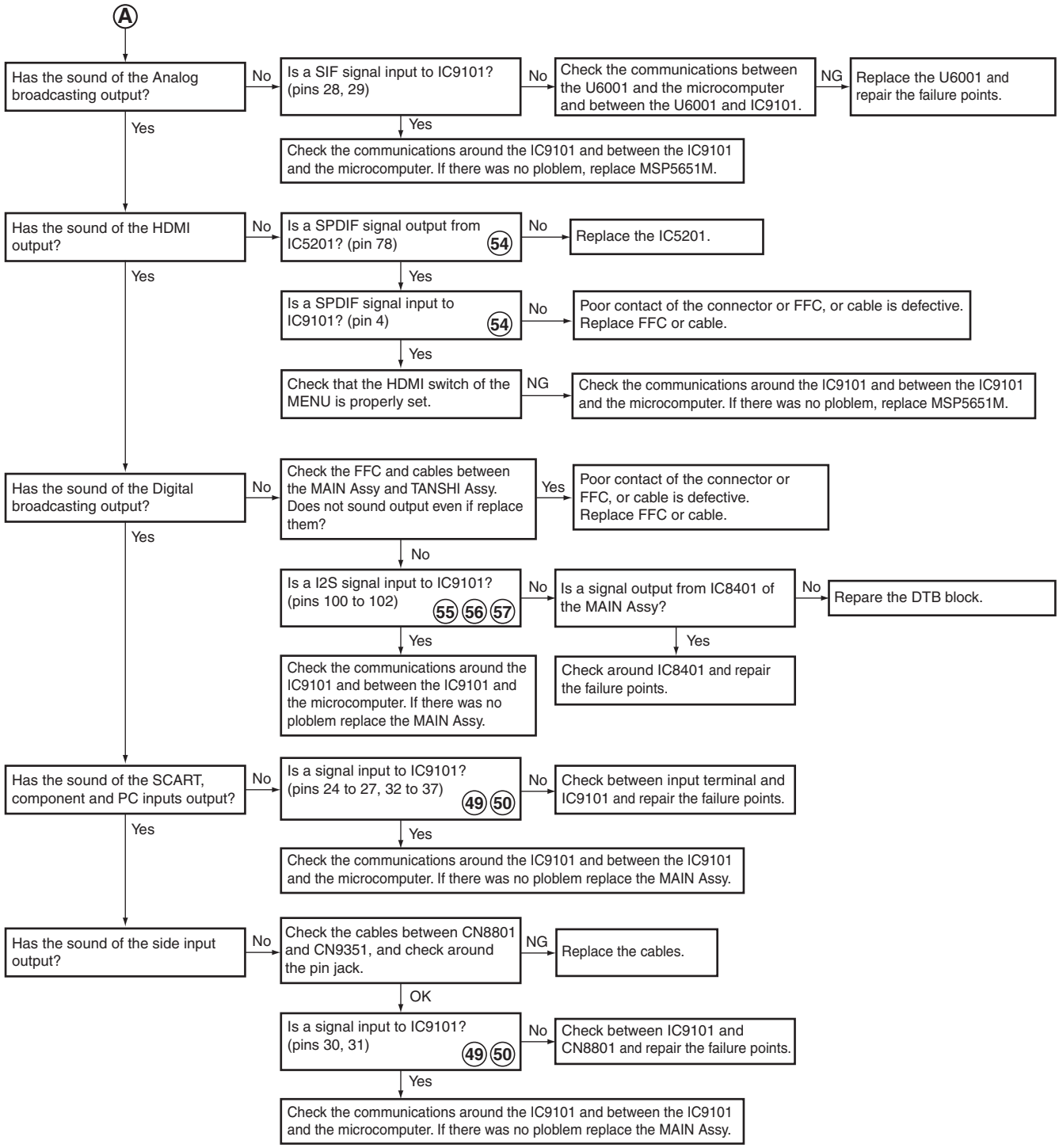


52 IC9101 - pins 38, 39
V: 1 V/div H: 1 mS/div



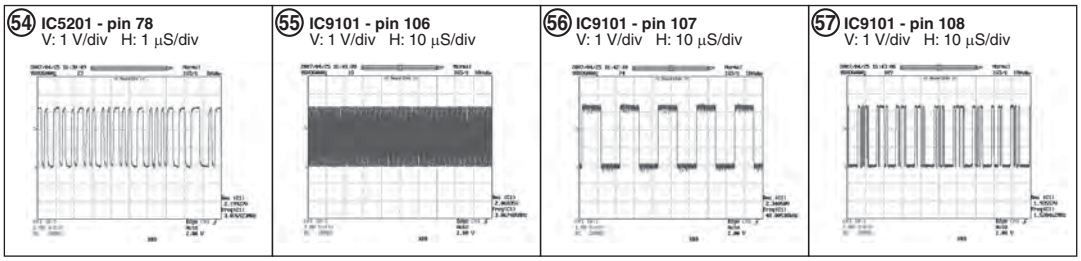
53 IC8871 - pins 1, 7
V: 1 V/div H: 1 mS/div




A
Has the sound of the Analog broadcasting output?
No
Is a SIF signal input to IC9101? (pins 28, 29)
No
Check the communications between the U6001 and the microcomputer and between the U6001 and IC9101.
NG
Replace the U6001 and repair the failure points.
Yes
Yes
Check the communications around the IC9101 and between the IC9101 and the microcomputer. If there was no ploblem, replace MSP5651M.
Has the sound of the HDMI output?
No
Is a SPDIF signal output from IC5201? (pin 78) 54
No
Replace the IC5201.
Yes
Yes
Is a SPDIF signal input to IC9101? (pin 4) 54
No
Poor contact of the connector or FFC, or cable is defective. Replace FFC or cable.
Yes
Check that the HDMI switch of the MENU is properly set.
NG
Check the communications around the IC9101 and between the IC9101 and the microcomputer. If there was no ploblem, replace MSP5651M.
Has the sound of the Digital broadcasting output?
No
Check the FFC and cables between the MAIN Assy and TANSHI Assy. Does not sound output even if replace them?
Yes
Poor contact of the connector or FFC, or cable is defective. Replace FFC or cable.
Yes
No
Is a I2S signal input to IC9101? (pins 100 to 102) 55 56 57
No
Is a signal output from IC8401 of the MAIN Assy?
No
Repare the DTB block.
Yes
Yes
Check the communications around the IC9101 and between the IC9101 and the microcomputer. If there was no ploblem replace the MAIN Assy.
Check around IC8401 and repair the failure points.
Has the sound of the SCART, component and PC inputs output?
No
Is a signal input to IC9101? (pins 24 to 27, 32 to 37) 49 50
No
Check between input terminal and IC9101 and repair the failure points.
Yes
Yes
Check the communications around the IC9101 and between the IC9101 and the microcomputer. If there was no ploblem replace the MAIN Assy.
Has the sound of the side input output?
No
Check the cables between CN8801 and CN9351, and check around the pin jack.
NG
Replace the cables.
OK
Is a signal input to IC9101? (pins 30, 31) 49 50
No
Check between IC9101 and CN8801 and repair the failure points.
Yes
Check the communications around the IC9101 and between the IC9101 and the microcomputer. If there was no ploblem replace the MAIN Assy.

● Waveforms

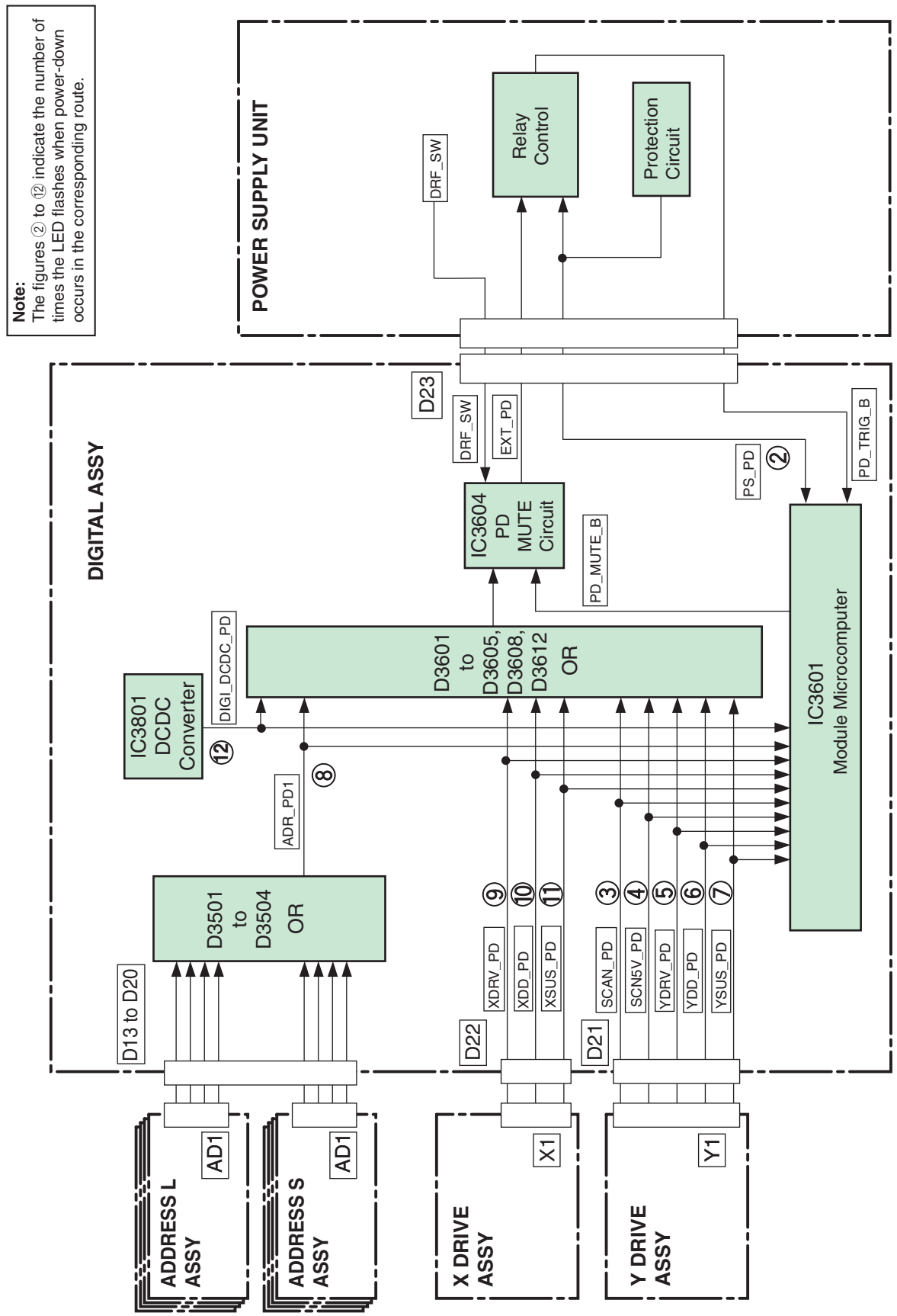
Input signal: L/R 1 kHz, 0.5 Vrms (VOL 30)


54 IC5201 - pin 78
V: 1 V/div H: 1 µS/div
55 IC9101 - pin 106
V: 1 V/div H: 10 µS/div
56 IC9101 - pin 107
V: 1 V/div H: 10 µS/div
57 IC9101 - pin 108
V: 1 V/div H: 10 µS/div

5.3 DIAGNOSIS OF PD (POWER-DOWN)

5.3.1 BLOCK DIAGRAM OF THE POWER-DOWN SIGNAL

■ Block Diagram of the Power-Down Signal



5.3.2 PD (POWER-DOWN) DIAGNOSIS OF FAILURE ANALYSIS

■ Prediction of failure symptoms when a PD (power-down) is generated

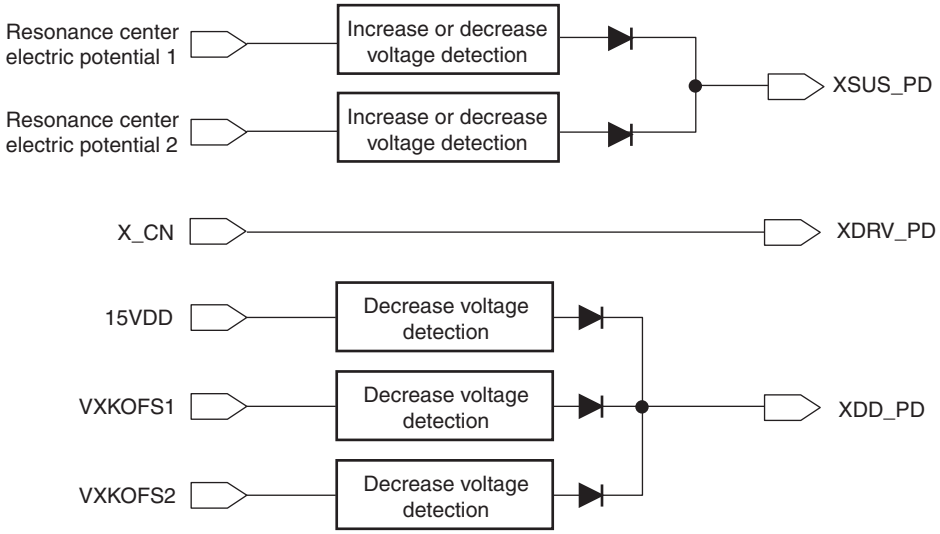
Red LED Flashing Count	Operating PD	Defective Assy	PD Outline	Checkpoint	Possible Defective Part	Remarks
2	POWER	POWER SUPPLY Unit	Failure in the POWER SUPPLY Unit			
		X DRIVE Assy	VSUS UVP	X SUS BLOCK	Q1219 to Q1224	VSUS-PSUS and SUSOUT-SUSGND are short-circuited.
		Y DRIVE Assy		Y SUS BLOCK	Q2217 to Q2224	VSUS-SUSOUT and SUSOUT-SUSGND are short-circuited.
3	SCAN	SCAN Assy	VH UVP	SCAN IC	SCAN IC	
		X DRIVE Assy		X SUS BLOCK	Q1218 to Q1224,Q1226	VSUS-PSUS and SUSOUT-SUSGND are short-circuited.
		Y DRIVE Assy		Y SUS BLOCK	Q2217 to Q2224	VSUS-SUSOUT and SUSOUT-SUSGND are short-circuited.
				VH DC/DC converter	IC2601,IC2603,D2604	
			Connectors disconnection detection	CN2001,CN2301		
		DIGITAL Assy		CN3509		
4	SCN-5V	SCAN Assy	Connectors disconnection detection	CN2801,CN2901,CN2902,CN3001, CN3002,CN3101		
			IC5V UVP	SCAN IC	SCAN IC	
		Y DRIVE Assy		IC5V DC/DC	Q2764,D2768,R2764	
6	Y-DCDC	Y DRIVE Assy	VNOFS UVP	Y MSK BLOCK	Q2320 to Q2325,Q2330,Q2332,Q2334	LMSK is short-circuited.
				VNOFS DC/DC	D2606,Q2709,Q2710	
			Vprst UVP	YPRST Regulator	Q2604,Q2605,IC2602	
			15VDD UVP	15VDC/DC	Q2662,R2669	
			VKOFS1_2 UVP	Y MSK BLOCK	Q2320 to Q2325,Q2330,Q2332,Q2334	LMSK is short-circuited.
				VKOFS1_2 Regulator	Q2705,Q2702	
			VKOFS3 UVP	Y MSK BLOCK	Q2320 to Q2325,Q2330,Q2332,Q2334	LMSK is short-circuited.
				VKOFS3 Regulator	Q2706,Q2703	
			VKOFS4 UVP	Y MSK BLOCK	Q2320 to Q2325,Q2330,Q2332,Q2334	LMSK is short-circuited.
				VKOFS4 Regulator	Q2707,Q2704	
7	Y-SUS	Y DRIVE Assy	Center electric potential detection PD	Y RESONANCE BLOCK	Q2106 to Q2109,Q2111,Q2113, D2104 to D2107	
8	ADRS	ADDRESS Assy	VADR UVP	ADDRESS RESONACE BLOCK		
			VADR UVP	TCP		
			Connectors disconnection detection	CN1601,CN1602,CN1801,CN1802		
		DIGITAL Assy		CN3501 to CN3508		
		X DRIVE Assy		CN1202 to CN1206		
		Y DRIVE Assy		CN2302 to CN2306		
9	XDRIVE	X DRIVE Assy	Connectors disconnection detection	CN1001		
		DIGITAL Assy		CN3510		
10	X-DCDC	X DRIVE Assy	Connectors disconnection detection	CN1201		
			15VDD UVP	X SUS BLOCK	L1201,R1217	
				15VDC/DC	Q1402	
			VXKOFS1 UVP	VXKOFS1 Regulator	Q1405,Q1406	
				X OFFSET BLOCK	Q1302,Q1304	
			VXKOFS2 UVP	VXKOFS2 Regulator	Q1403,Q1404	
				X OFFSET BLOCK	Q1301,Q1303	
11	X-SUS	X DRIVE Assy	Center electric potential detection PD	X RESONANCE BLOCK	Q1108,Q1116,Q1112,Q1119	
12	DIG-DCDC	DIGITAL Assy	3.3V, 2.5V, 1.1V UVP, OVP, OCP	Abnormality in the DC-DC converter control IC	IC3801	
				Periphery of the DC-DC converter	Q3841, Q3861, Q3881 L3841, L3861, L3881 R3820, R3848, R3868, R3888	
			5.1V OCP	Abnormality in 5.1V input (include abnormality in the protection fuse)	FU3801	
15	UNKNOW	POWER SUPPLY Unit	Connectors disconnection detection	P4		EXT_PD line: Open
		DIGITAL Assy	Connectors disconnection detection	CN3801		EXT_PD line: Open
			ModuleUcom can not detection	Each PD line of ModuleUcom		It becomes "UNKNOW" except above-mentioned PD detection condition.

UVP: Under Voltage Protection , OVP: Over Voltage Protection , OCP: Over Current Protection

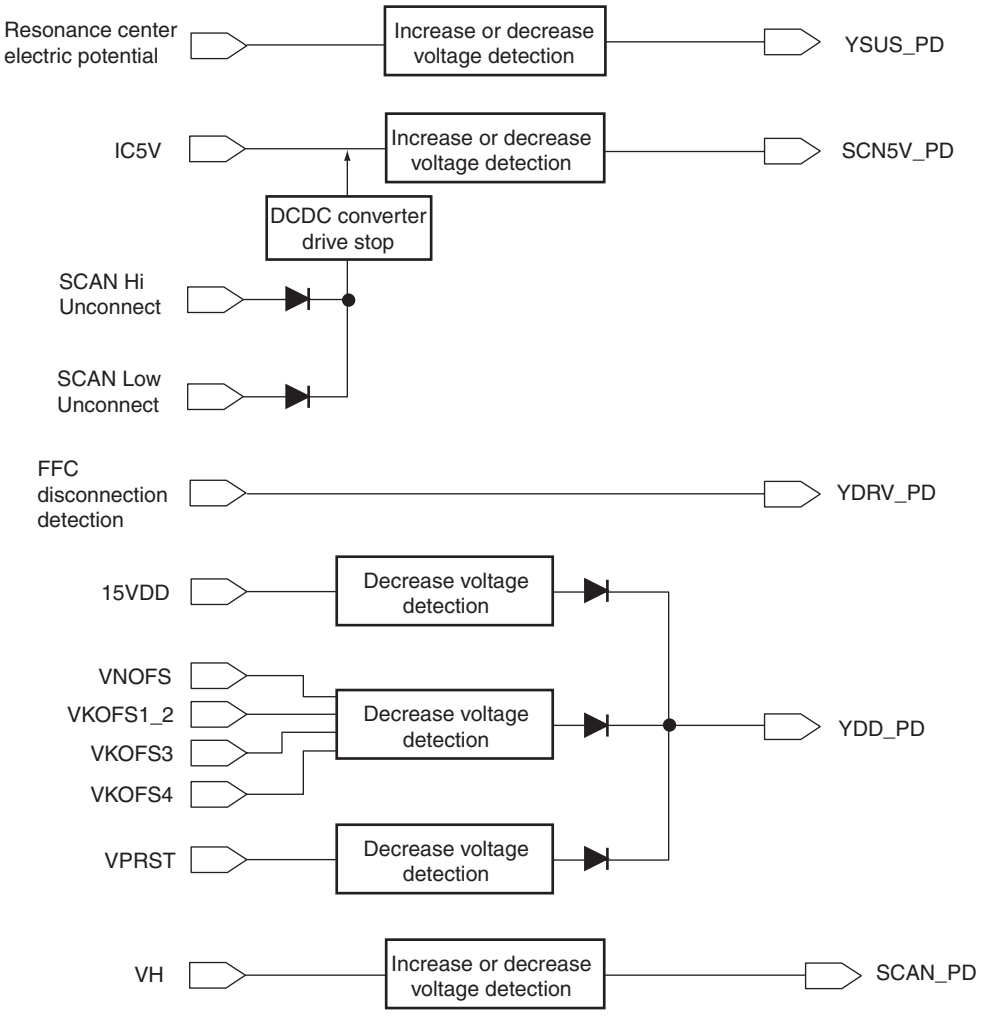
How to distinguish which connector is disconnected

Assy	Connector	To which Assy the Connector is Connected	LED Flashing Count	Screen Display
X DRIVE Assy	CN1001	DIGITAL Assy	5 (XDRIVE)	
	CN1201	POWER SUPPLY Unit (drive system power)		Black screen
	CN1202	POWER SUPPLY Unit (ADR system power)	8 (ADRS)	
	CN1203	ADDRESS Assy	8 (ADRS)	
Y DRIVE Assy	CN2001	DIGITAL Assy	3 (SCAN)	
	CN2301	POWER SUPPLY Unit (drive system power)	3 (SCAN)	
	CN2302	POWER SUPPLY Unit (ADR system power)	8 (ADR)	
	CN2303 to CN2306	ADDRESS Assy	8 (ADR)	
	CN2501, CN2502	SCAN A, B, C, D Assy	4 (SCN-5V)	
SCAN A, B, C, D Assy	CN2901, CN3001	Y DRIVE Assy	4 (SCN-5V)	
	CN2801, CN2902 CN3002, CN3101	SCAN A, B, C, D Assy		
ADDRESS Assy	CN1602, CN1802	DIGITAL Assy	8 (ADRS)	
	CN1601, CN1801	X DRIVE Assy, Y DRIVE Assy	8 (ADRS)	

X Drive PD system



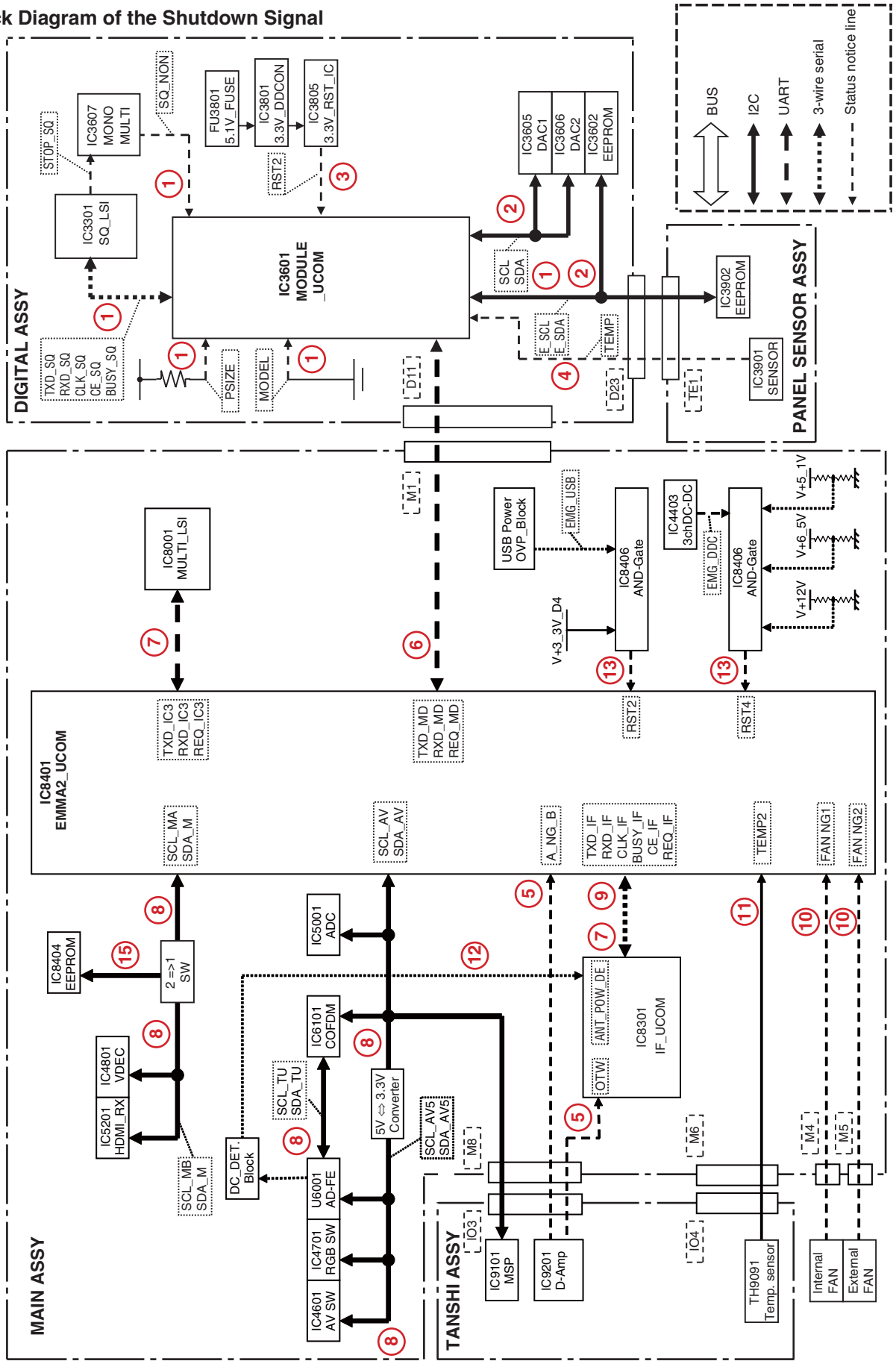
Y Drive PD system



5.4 DIAGNOSIS OF SD (SHUTDOWN)

5.4.1 BLOCK DIAGRAM OF THE SHUTDOWN SIGNAL

■ Block Diagram of the Shutdown Signal



Note : The figures ① to ⑮ indicate the number of times the LED flashes when shut-down occurs in the corresponding route.

Frequency of LED Flashing	Major Type	Detailed Type	Log Indication in Factory Mode		Checkpoint	Possible Defective Part	Remarks
			MAIN	SUB			
Blue 1	Abnormality in the Sequence LSI	Communication error	SQ-LSI	RTRY	CLK_SQ/TXD_SQ, etc.	IC3301, IC3601	SQ_IC communication not established. IC3301 may not have properly started up.
		Drive stop		SQNO	Check if the video sync signal is input to IC3301.	CN3201, IC3202, IC3301	A shutdown occurs if IC3301 has not properly started up (a communication failure between IC3301 and IC3302 [FLASH]).
		Busy		BUSY	BUSY_SQ	IC3301, IC3601	If BUSY_SQ remains high, a shutdown is generated.
		Incoherent version (hardware, software)		VER-HS	Check the model number of the DIGITAL Assy and the destination of the sequence LSI.	IC3302, IC3601	The written SEQ_PROG is incoherent with data on the DIGITAL Assy.
		Incoherent version (memory, software)		VER-MS	Check the model number of the DIGITAL Assy and the destination of the sequence LSI.	IC3302, IC3601, IC3602	A shutdown occurs if the SEQ-PROG that has been stored in backup memory does not coincide with the actual SEQ-PROG.
Blue 2	Failure in IIC communication with the module microcomputer	DIGITAL Assy EEPROM	MD-IIC	EEPROM	IIC communication line of IC3602	IC3602, IC3601	Check the pull-up resistor of the IIC control line and the power to the corresponding IC.
		SENSOR Assy EEPROM		BACKUP	IIC communication line of IC3902	PANEL SENSOR Assy (IC3902), IC3601	Check the pull-up resistor of the IIC control line and the power to the corresponding IC.
		DAC1		DAC1	IIC communication line of IC3605	IC3605, IC3601	Check the pull-up resistor of the IIC control line and the power to the corresponding IC.
		DAC2		DAC2	IIC communication line of IC3606	IC3606, IC3601	Check the pull-up resistor of the IIC control line and the power to the corresponding IC.
Blue 3	Abnormality in RST2 power decrease	–	RST2	–	Is the output voltage (3.3 V) of the DC-DC converter low?	TP3881, TP3882	If RST2 does not become high after the unit is turned on, a shutdown will be generated in several seconds.
					The 5.1 V power is not output.	POWER SUPPLY Unit,FU3801	Check if V + 5.1 V is started. Also check if the FU3801 on the DIGITAL Assy has been melted.
Blue 4	Abnormality in panel temperature	–	TMP-NG	TMP-H	High temperature abnormality in the panel temperature sensor	PANEL SENSOR Assy (IC3901)	If TEMP1 that is read by the module microcomputer is 85 °C or higher, a shutdown will be generated.
				TMP-L	Low temperature abnormality in the panel temperature sensor	PANEL SENSOR Assy (IC3901)	A shutdown occurs if the reading of TEMP1 detected by the module microcomputer is –20°C or less. Also check the connection with the PANEL SENSOR Assy.
Blue 5	Short-circuiting of the speakers / D-AMP temperature abnormality	–	AUDIO	–	Speaker terminals	JA9301	Check if any speaker cable is in contact with the chassis.
					AUDIO_AMP	IC9201, IC9101	Check if the AMP output is short-circuited.
					Periphery of the cable between IO3 and M8, and IO6 and P5	CN8803,CN4001,CN8806,P5	Check if cables are firmly connected.
Blue 6	Failure in communication with the module microcomputer	–	MODULE	–	Communication line between MAIN and MOD	IC3151, IC8401	Check the communication lines (TXD_MOD/RXD_MOD/REQ_MOD).
					Periphery of the cable between D11 and M1	CN3001, CN4101	Check if cables are firmly connected.
Blue 7	Failure in main microcomputer 3-wire serial communication	IF microcomputer	MA-3L	IF	Communication line between IF and MAIN	IC8301, IC8401	Check the communication lines (TXD_IF/RXD_IF/CLK_IF/BUSY_IF/CE_IF/REQ_IF).
		MULTI processor		MULTI	Communication line between MULTI and MAIN	IC8001, IC8401	Check the communication lines (TXD_IC3/RXD_IC3).
Blue 8	Failure in IIC communication with the main microcomputer	Tuner 1	MA-IIC	FE1	IIC communication line between Tuner and MAIN	U6001,IC8401,IC6101	Check the communication lines (SCL_TU/SDA_TU or SCL_AV5/SDA_AV5).
		MSP/MAP		MSPMAP	IIC communication line between MSP/MAP and MAIN	IC9101, IC8401	Check the communication lines (SCL_AV/SDA_AV).
		AV switch		AV-SW	IIC communication line between AV-SW and MAIN	IC4601, IC8401	Check the communication lines (SCL_AV5/SDA_AV5).
		RGB switch		RGB-SW	IIC communication line between RGB-SW and MAIN	IC4701, IC8401	Check the communication lines (SCL_AV5/SDA_AV5).
		VDEC		VDEC	IIC communication line between M-VDEC and MAIN	IC4801, IC8401	Check the communication lines (SCL_MB/SDA_MB).
		VDEC SDRAM		SDRAM	IIC communication line between VDEC and SDRAM	IC4801, IC4802	Check the communication lines (SDRAM). Defective SDRAM
		AD/PLL		ADC	IIC communication line between ADC and MAIN	IC5001, IC8401	Check the communication lines (SCL_AV/SDA_AV).
		HDMI		HDMI	IIC communication line between HDMI_RX and MAIN	IC5201, IC8401	Check the communication lines (SCL_MB/SDA_MB).
		COFDEM		DEMOD	IIC communication line between COFDM and MAIN	IC6101, IC8401	Check the communication lines (SCL_AV/SDA_AV).
Blue 9	Failure in communication with the main microcomputer	–	MAIN	–	Communication line between IF and MAIN	IC8301, IC8401	Check the communication lines (TXD_IF/RXD_IF/CLK_IF/BUSY_IF/CE_IF/REQ_IF).
Blue 10	FAN NG	FAN1	FAN	FAN1	Dirt attached to the fan motor	–	Check the fan. (SD10 does not detect it at the temperature that a fan does not turn.)
					Periphery of the cable between FAN and M4	CN4103	Check if cables are firmly connected.
					Periphery of the fan control regulator	IC4310	Check that the voltage outputs it.
		FAN2		FAN2	Dirt attached to the fan motor	–	Check the fan. (SD10 does not detect it at the temperature that fans do not turn.)
					Periphery of the FHD FAN CONNECT	FHD FAN CONNECT Assy	FAN NG
					Periphery of the cable between FA1 and M5, FAN and M4, and FA2 and FA5	CN9551 to CN9555,CN4108	Check if cables are firmly connected.
					Periphery of the fan control regulator	IC4303	Check that the voltage outputs it.

Frequency of LED Flashing	Major Type	Detailed Type	Log Indication in Factory Mode		Checkpoint	Possible Defective Part	Remarks
			MAIN	SUB			
Blue 11	High temperature of the unit	–	TEMP2	–	Temperature sensor or its periphery	–	TEMP2 A shutdown occurs because of high temperature.
					Periphery of the temperature sensor	TH9091	TEMP2
					Periphery of the cable between IO4 and M6	CN8804, CN4004	Check if cables are firmly connected.
Blue 12	Digital Tuner	DTV startup error	DTUNER	PS/RST	–	IC8401	Check if DTV antenna is short-circuited.
		DTV ANTENNA		D-ANT	–	–	–
Blue 13	Failure in the power supply	DC-DC Converter power decrease	RST-MA	M-DCDC	DC-DC converter or its periphery, RST2	IC4403, Q4404	Check if V + 3.3 V_D4 is started.
					EMG_USB	IC4309	Check if the voltage at a waveform check point is 5 V.
		POWER SUPPLY		RELAY	The 12 V power is not output, RST4	POWER SUPPLY Unit	Check if V + 12 V is started.
					The 6.5 V power is not output	POWER SUPPLY Unit	Check if V + 6.5 V is started.
					The 5.1 V power is not output	POWER SUPPLY Unit	Check if V + 5.1 V is started.
					EMG_DDC	DCDC converter	Check if the DCDC converter is overloaded.
					Periphery of the cable between P8 and M3	CN4105	Check if cables are firmly connected.
Blue 15	Main EEPROM	Main EEPROM communication error	MA-EEP	–	IIC communication line between EEPROM and MAIN	IC8404, IC8401	Check the communication lines (SCL_EP/SDA_EP).

5.5 NON-FAILURE INFORMATION

5.5.1 INFORMATION ON SYMPTOMS THAT DO NOT CONSTITUTE FAILURE

■Information on symptoms that do not constitute failure

Symptom	Cause, item to check, information
HDMI: Symptoms concerning the input format and settings	
The picture color for an INPUT 1 or 3 or 4 signal is not correct.	The color setting for INPUT 1 or 3 or 4 is not compatible with that of the output equipment. Check whether the color setting is YPbPr or RGB.
The video signal to INPUT 1 or 3 or 4 is not displayed, and a message is displayed.	A unsupported video signal is input.
The audio signal input to the INPUT 1 or 3 is not output. No HDMI signal is input.	The audio setting for INPUT 1 or 3 is any setting, and a video signal is not input. If the audio setting is any setting, to output an analog audio signal, the HDMI signal must be input. (If a DVI device is to be connected, use a DVI-HDMI conversion cable.) If the HDMI video signal is not input, the analog audio signal is not output.
No sound of signals to INPUT 1 or 3 or 4 is output.	The setting on the side of the HDMI output equipment is wrong. Example: Dolby Digital
The 1080p input signal is not displayed properly or at all, although the 1080i input signal is displayed properly.	Check that the connected cable supports HDMI Category 2. (As the clock frequency for the 1080p signal is triple that for the 1080i signal, signal degradation caused by a cable must not be neglected. A cable supporting HDMI Category 2 can be used for the 1080p signal. Although some conventional cables can support the 1080p signal, some others cannot.)
SCART video output	
The video output signal from the SCART connector is deteriorated. Or when the video output signal from the SCART connector is recorded, its playback picture is deteriorated.	The video signal output from the SCART connector is Macrovision protected.
The video signal is not output when the component signal is input to INPUT 2.	The video signal is not output from the SCART connector when the component signal is selected.
The video signal is not output when the video signal is input to INPUT 1 or 3 or 4.	The video signal is not output from the SCART connector when the HDMI signal is selected.
AUDIO OUT and SCART	
The image displayed on the PDP is not synchronized with the sound from the SCART.	The audio signal from the SCART connector is synchronized with the video output signal from the SCART connector. And the audio signal from the AUDIO OUT is synchronized with the video signal that is currently displayed.
DIGITAL OUT	
Playback of the signal from the DIGITAL audio output connector is possible, but recording is not possible.	The video signal output from the DIGITAL connector is copy-protected.
The digital audio output signal from the DIGITAL connector is not synchronized with that from the SCART video output.	The digital audio output signal from the DIGITAL connector is synchronized with the video signal that is currently displayed, and not with the SCART video output.
Miscellaneous	
The no-signal off function is not activated.	The no-signal off and no-operation off functions are effective only if video (composite, S video, component, HDMI [excluding PC]) input or TV input is selected.
The no-operation off function is not activated.	
Power management does not function.	Power Management is effective only while an analog PC signal is being input. It is not effective with HDMI-PC signal input.
The AUTO SETUP function is not activated.	The Auto Setup function is effective only while an analog PC signal is being input. This function does not work if an analog PC signal is not input, even if the INPUT PC is selected.
The audio signal from the PC is not output.	Wrong connection of the cable to the SR connector is suspected.
Control via the SR connector is not possible.	Wrong connection of the cable to the PC INPUT (AUDIO) connector is suspected.
The picture-quality setting (AV Selection) is not stored.	The picture-quality setting is stored for each input. As the setting is changed when another input is selected, the user may have a false idea that the setting is not stored.
The picture size changes arbitrary.	The Auto Size setting is set to ON.
The display position of the screen changes slightly while the screen is on.	The orbiter function for minimizing the effects of phosphor burn is activated. Although the setting for this function can be changed on the Home menu, retaining the factory setting is strongly recommended.
The video signal to the S video connector is not displayed.	As the signal input to the connector that has been selected on the INPUT SELECT submenu of the Home menu is selected (this does not apply to the connectors located on the side of the unit), check the menu setting. If the output signal is not available even if the input signal is properly selected, input a signal to other input functions, check the connecting cables, or check the settings for the connected equipment.
The video signal to the composite video connector is not displayed.	

SUPPLEMENT: On the video setting for HDMI

There are three types of HDMI output formats: color difference 4:4:4, color difference 4:2:2, and RGB4:4:4.
(The proportions, such as 4:4:4 and 4:2:2, represent those of the amount of data for video signal components. For example, as for color difference 4:4:4, the proportion of the amount of data as for Y, Cb, and Cr is 4:4:4.)

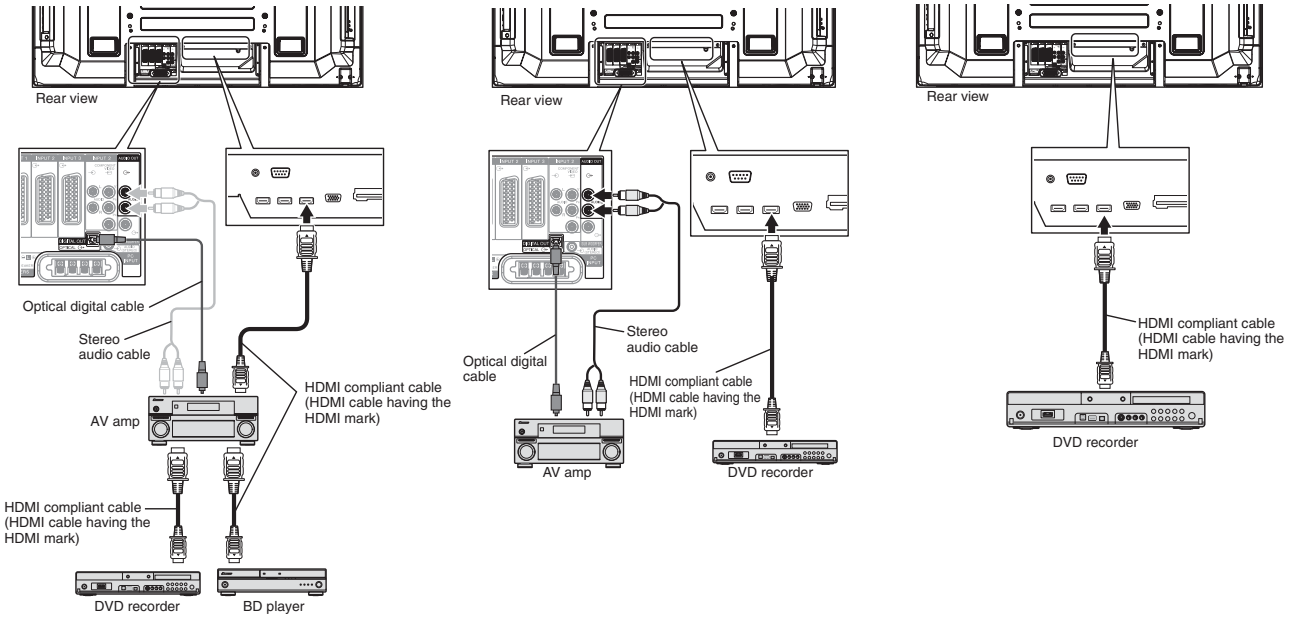
It is required to make the settings of the PDP according to the settings of the output equipment. For usual operation, however, set them to AUTO. If the color is inappropriate, make the settings manually.
In the HDMI system, video signals are coded at 24 bits per pixel and transmitted as a series of 24-bit pixels. In a case of color difference 4:4:4, Y, Cb, and Cr use 8 bits each. In a case of color difference 4:2:2, Y, Cb, and Cr use 12 bits each, but Cb and Cr are transmitted at a half sampling rate of Y. This unit is capable of processing the upper 10 bits out of 12 bits of video data. Recent high-end DVD players, such as Pioneer DV-79AVi, are capable of outputting 10-bit color-difference signals. In general, it is said that picture quality for color difference 4:2:2 format is assumed to be higher, because human eyes are more sensitive to luminance than to colors. In the case of RGB4:4:4, R, G, and B use 8 bits each.

5.5.1.1 CONFIRMATION ON THE HDMI CONTROL FUNCTION

When you use the HDMI Control (HDMI-CEC) function, if the unit does not function properly, such as not being able to control or recognize connected equipment, check the following:

- **Confirmation of the manufacturer of the connected equipment**
  Check if the connected equipment was manufactured by Pioneer and if it supports the HDMI Control function.
  If its manufacturer is not Pioneer, proper operations are not guaranteed.

- **Confirmation of connections**
  Check if the unit is connected properly, as shown in the figures below:
  (For details, refer to "Making the HDMI Control connections" in the Operating instructions.)



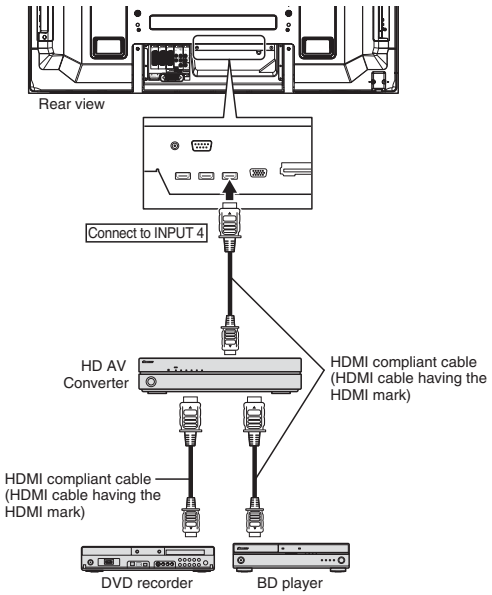
Example 1: When an AV amplifier that supports HDMI Control is connected

Example 2: When an AV amplifier that does not support HDMI Control is connected

Example 3: When an AV amplifier is not connected

Check that the following conditions are met:
- The connected equipment must support the HDMI Control function.
- The equipment must be connected to the INPUT connector that has been selected in "Input Setting" on the HDMI Control Setting menu.
- The connections must be made properly, as shown in the above figures (in a case where an AV device, such as an AV amplifier, and a DVD recorder/BD player are connected, in a case where only a DVD recorder/BD player is connected, and in a case where an AV device, such as an AV amplifier, which does not support HDMI-CEC, is connected).
- When an AV device that supports the HDMI Control function is connected, it must be connected between the PDP and a DVD recorder/BD player.
- An AV device, such as an AV amplifier, and the HD AV Converter must not be connected simultaneously.
- The HDMI Control function must be activated on the connected equipment (DVD recorder, BD player, AV device [AV amplifier, etc.], or the HD AV Converter). (Refer to the instruction manual of the connected equipment.)

If the HD AV Converter is connected, check if it is connected properly, as shown in the figure below.
(For details, refer to "Selecting the HD AV Converter" and "HD AV Converter mode" in the Operating instructions.)


Rear view
Connect to INPUT 4
HD AV Converter
HDMI compliant cable (HDMI cable having the HDMI mark)
HDMI compliant cable (HDMI cable having the HDMI mark)
DVD recorder
BD player

Check that the following conditions are met:
- The HD AV Converter must be connected to the INPUT 4 connector of the PDP.
- The HD AV Converter must be connected between the PDP and a DVD recorder/BD player, as shown in the figure above.
- The AV device, such as an AV amplifier, and the HD AV Converter are not connected simultaneously.
- The HDMI Control function must be activated on the HD AV Converter. (For details, refer to the instruction manual of the HD AV Converter.)

• Confirmation of the number of connected devices

Check that the number of connected devices does not exceed the maximum number for guaranteed operations.

Equipment	Maximum Number
DVD recorder	2
BD player	2
AV System	1 (∗1)
HD AV Converter	1 (∗1)

(∗1) Operation with either an AV device (AV amplifier, etc.) or the HD AV Converter is guaranteed. If both are connected, their operations are not guaranteed.

• Confirmation of settings

Check that the settings for the HDMI Control function are properly made. (For details, refer to "Setting the HDMI Control" in the Operating instructions.)

Check that the following conditions are met:
- "Input Setting" on the HDMI Control Setting menu must be set to the same input as that to which the equipment that supports the HDMI Control function is connected.
- When the HD AV Converter is connected, "HD AV Converter" on the HDMI Control Setting menu must be set to Enable.
- When Power Off Control, Power-On Ready, or Hold Sound Status are to be used, their settings must be On.
- When the HD AV Converter is connected, the HDMI Control switch on the rear panel of the HD AV Converter must be set to ON. The HDMI Control indicator on the front panel of the HD AV Converter will light in green when HDMI Control is enabled. (The HDMI Control indicator's lighting in green means HDMI Control is possible.)

• **Confirmation of operations**

Check that the HDMI Control function works properly.

(1) Connect a device that supports the HDMI Control function.

(2) Perform the procedures that are required after changing connections, which are described in "Making the HDMI Control connections" in the Operating instructions.

1 Turn on the plasma television and all the connected devices.

2 Confirm that the setting in “Input Setting” for “HDMI Control Setting” is properly entered according to the connected devices. Also confirm the HDMI Control related settings in the connected devices.

3 Switch to the HDMI input terminals to which the devices are connected to check if audio and video images are properly output and displayed.

4 Try turning off the plasma television, then turn the power back on to the plasma television.

(3) Perform "Power On Test" or "Power Off Test" on the HDMI Control Setting menu. (For details, refer to "Power On/Off Test" in the Operating instructions.)

If the following occurs even if the operation check is performed properly, a failure, such as breakage of the HDMI cable, problems on the side of the connected device, and problems with the MAIN Assy, may be suspected:

- "Power On Test" or "Power Off Test" cannot be selected (the items are grayed)
- The connected device cannot be turned on/off.

In some cases, an operation check using another HDMI input connector may be required in order to narrow down the cause.

As for the HD AV Converter, because "Power On Test" / "Power Off Test" is not available, follow the procedures below:

(1) Connect the HD AV Converter to the INPUT 4 connector. Set "HD AV Converter" on the HDMI Control Setting menu to Enable. The HD AV Converter can support HDMI Control only when it is connected to the INPUT 4 connector of the PDP.

(2) Perform the procedures that are required after changing connections, which are described in "Making the HDMI Control connections" in the Operating instructions.

(3) Turn the PDP off. If the PDP turns off properly, turn the HD AV Converter off.

If the following occurs even if the operation check is performed properly, a failure, such as breakage of the HDMI cable, problems on the side of the HD AV Converter, and problems with the MAIN Assy, may be suspected:

- The HD AV Converter cannot be turned off.

5.5.2 FUNCTION OF DECREASING THE BRIGHTNESS LEVEL

■ High-temperature protection function 1

If the panel temperature (TEMP1) reaches 80 °C, the limit for the maximum count of plasma discharge will be gradually decreased to lower the temperature of the panel.

- This function is activated based on the TEMP1 temperature.
- The limit for the maximum count of plasma discharge will be decreased 8 per 5 seconds.
- The lowest limit for the maximum count of plasma discharge is about 700.
- The maximum count of plasma discharge will begin to increase gradually if the panel temperature falls to the specified temperature.

■ High-temperature protection function 2

If the panel temperature (TEMP1) reaches 55 °C, the plasma-discharge count that is determined based on the input APL will be decreased. In actual operation, the ABL adjustment value will be offset.

- This function is activated based on the TEMP1 temperature.
- The ABL adjustment value will be decreased by one step per 30 seconds.
- The ABL adjustment value will begin to increase gradually if the panel temperature falls to the specified temperature.

■ Panel protection function 1 (protection against still picture)

If a still picture is displayed for 3 minutes or more, the limit for the maximum count of plasma discharge will be gradually decreased to minimize the effects of phosphor burn.

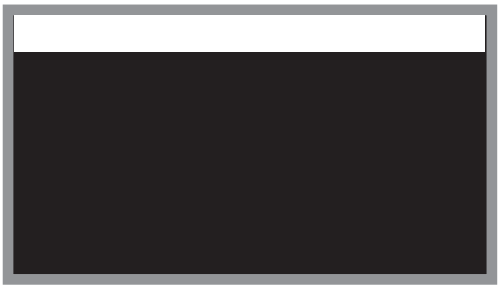
- This function is activated after detection if the displayed picture is still (the picture will be considered to be still if only the mouse cursor is moved).
- The limit for the maximum count of plasma discharge will be decreased 8 per 5 seconds.
- The lowest limit for the maximum count of plasma discharge is about 700 (it takes about 15 minutes to reach the lowest limit, although the required time varies depending on the displayed picture).
- The maximum count of plasma discharge will begin to increase gradually if the displayed picture is changed to animated picture.

Note: How to decrease the brightness level in this function is the same as in high-temperature protection function 1.

■ Panel protection function 2 (SCAN IC protection)

If a particular load is applied to the SCAN IC, the limit for the maximum count of plasma discharge will be gradually decreased.

Note: How to decrease the brightness level in this function is the same as in high-temperature protection function 1.

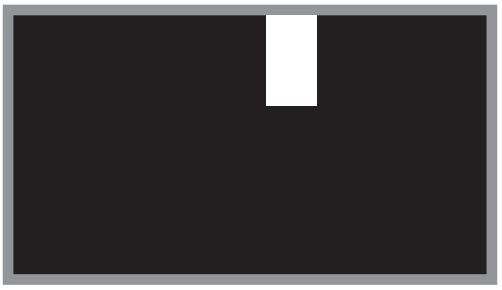


Detection example: SCAN IC protection

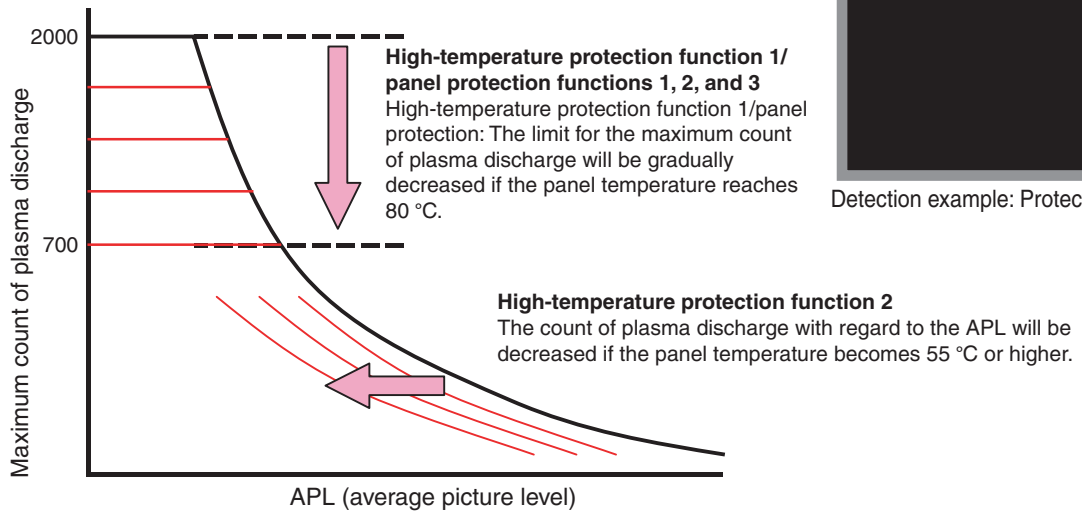
■ Panel protection function 3 (protection against panel cracking)

A bright window, as shown in the figure on the right, on the screen increases the heat of the panel. If such a pattern is recognized on the screen, the limit for the maximum count of plasma discharge will be gradually decreased.

Note: How to decrease the brightness level in this function is the same as in high-temperature protection function 1.



Detection example: Protection against panel cracking


2000
700
Maximum count of plasma discharge
APL (average picture level)
High-temperature protection function 1/ panel protection functions 1, 2, and 3
High-temperature protection function 1/panel protection: The limit for the maximum count of plasma discharge will be gradually decreased if the panel temperature reaches 80 °C.
High-temperature protection function 2
The count of plasma discharge with regard to the APL will be decreased if the panel temperature becomes 55 °C or higher.

5.6 OUTLINE OF THE OPERATION

5.6.1 PANEL DRIVE-POWER ON / OFF FUNCTION

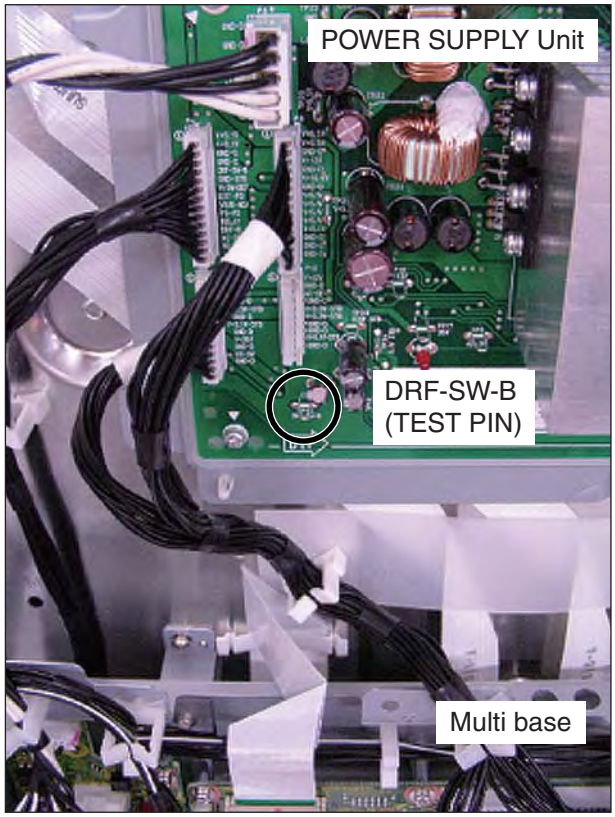
Function:
It is an operational mode where the digital signal processing performs circuit operation but the power is not supplied to the panel driving system (Vsus, VAddress) in order to avoid a power down (PD).

Application:
1. When it is necessary to check whether the signal output is correctly reaching the drive system in a repairing activity etc.
2. In the case of a PD, to determine whether the problem is with the panel drive-power supply or with the other system power supply.

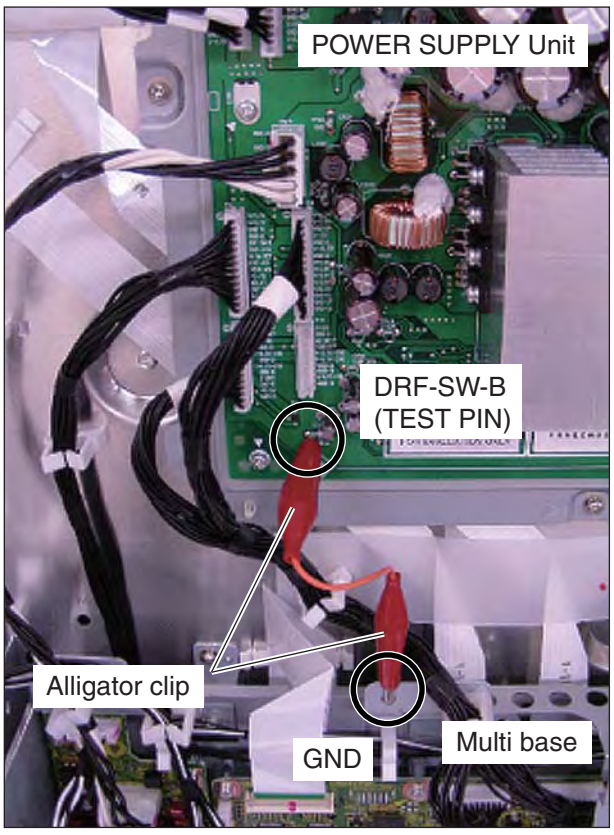
Method:
1. Short-circuit between the specified location of the POWER SUPPLY Unit and GND (Multi base section recommended), using a jumper with alligator clips (refer to the photos below).
2. Execute [DRV S00] by RS-232C command. ([DRV S01] for release)

Supplemental explanation:
- When the panel drive-power is in OFF state, there will be no PD, except PS_PD, as the PD signal has been muted.
- If the clip is removed in the OFF state of the panel drive-power, PD will take place at the instance of clip removal. Therefore, be sure to remove the clip after turning the power OFF.
- Under RS-232C command control, [DRV S01] (release) is possible during power ON. However, there is a possibility of damaging the set. Therefore, make this operation only after turning the power OFF.
- The [DRV S00/S01] commands are effective during Standby mode. However, if no operation is performed within about 10 seconds or more, the panel drive-power OFF state will be canceled.
- When the main power switch is set to OFF, no command is accepted.
- The panel drive-power OFF state established by the [DRVS00] command will be canceled by unplugging the AC power cord, setting the main power switch to OFF, or by performing no operation for 10 seconds or more during Standby mode.

When the panel drive-power is ON



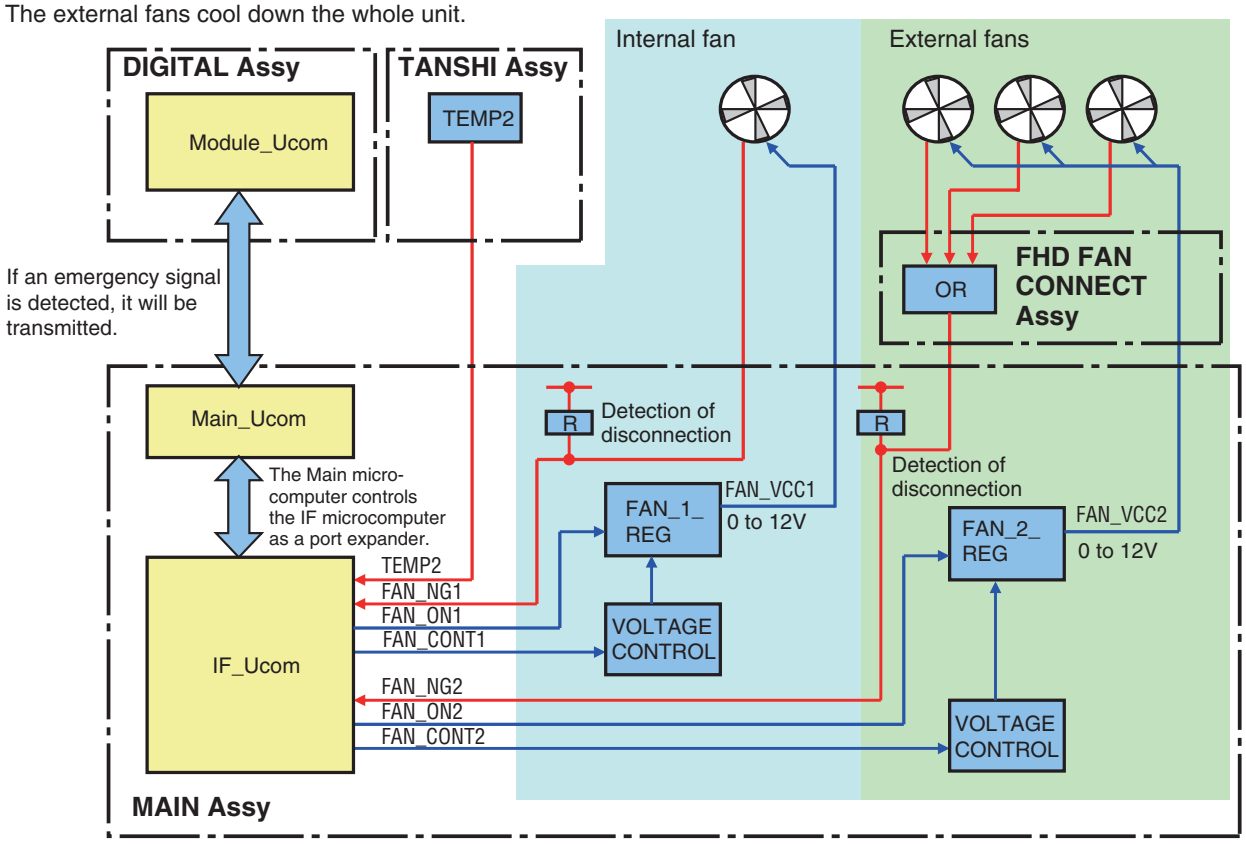
When the panel drive-power is OFF



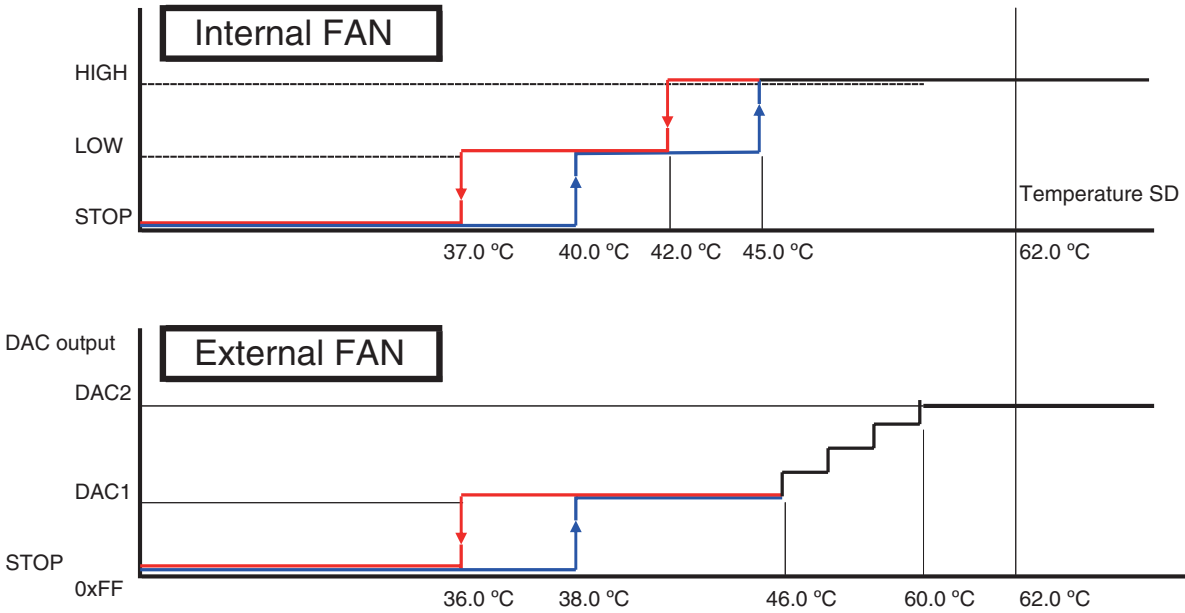
5.6.2 SPECIFICATION OF THE FAN CONTROL

■ Block diagram

The internal fan cools down the MTB and Power blocks.
The external fans cool down the whole unit.



■ Operation specifications



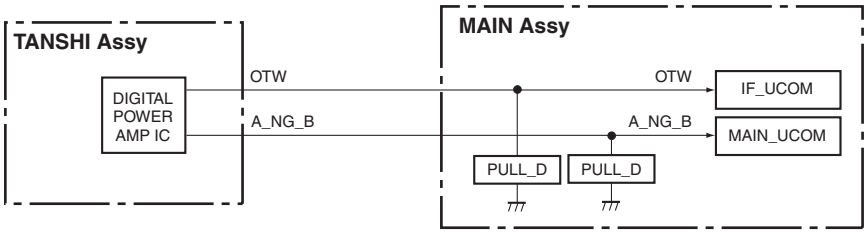
Notes:

- The operating temperature of the fan is higher than the ambient temperature, because the sensor temperature is read by the microcomputer.
- If the critical values for signals are displayed in the address circuit, the fan may be activated or be rotated at higher speed in response to values lower than the set temperature values shown above.
- When the temperature rises, the sensor voltage of TEMP2 decreases.
- When the voltage of the DAC output for external FAN decreases, rotation speed of FAN rises.

5.6.3 PROCESSING IN ABNORMALITY

Protection of the Power Amplifier

● **Circuit configuration**



● **Specifications for port monitoring**

Port Name	SD/PD Indication	Active	Monitoring conditions	Operation
A_NG_B	AUDIO	Shutdown occurs when the signal is "L." 30 mS × 3 times	RST4 = "H" (always) (Monitoring starts 2 sec after the above conditions are established.)	The main CPU operations described below will be performed when either "A_NG_B = L" or "OTW = L" is detected (established) under the monitoring conditions.
OTW	AUDIO	Shutdown occurs when the signal is "L." 130 mS × 3 times		

● **Operation specifications of the main CPU**

(1) When a shutdown decision is made by the main CPU
- After a warning indication is displayed for 5 sec, a shutdown is generated (the blue LED flashes 5 times).
- A warning indication is displayed for all input-signal types.
- Example of a warning indication: "The speaker terminals are short-circuited. After reconnection, turn the unit on again." (For 50-inch models) (For 42-inch models, an indication declaring a forced power-off is displayed.)

(2) Display conditions
When the panel is on: A warning indication is displayed immediately.
When the panel is off: A warning indication is not displayed immediately but is displayed when the panel is turned on.

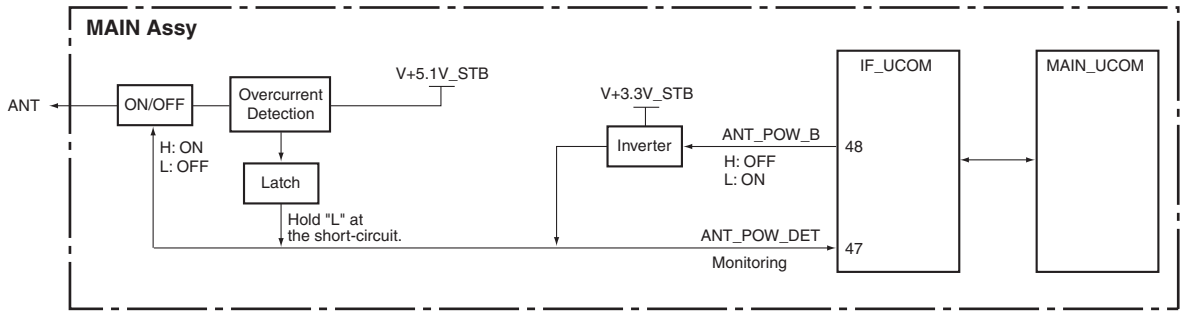
Note: A warning indication is displayed each time the panel is turned on if the conditions for a shutdown persist.

● **Conditions for resetting the circuits**

The circuits will be reset upon Standby ON/OFF.

DTB Antenna power supply

● **Circuit configuration**

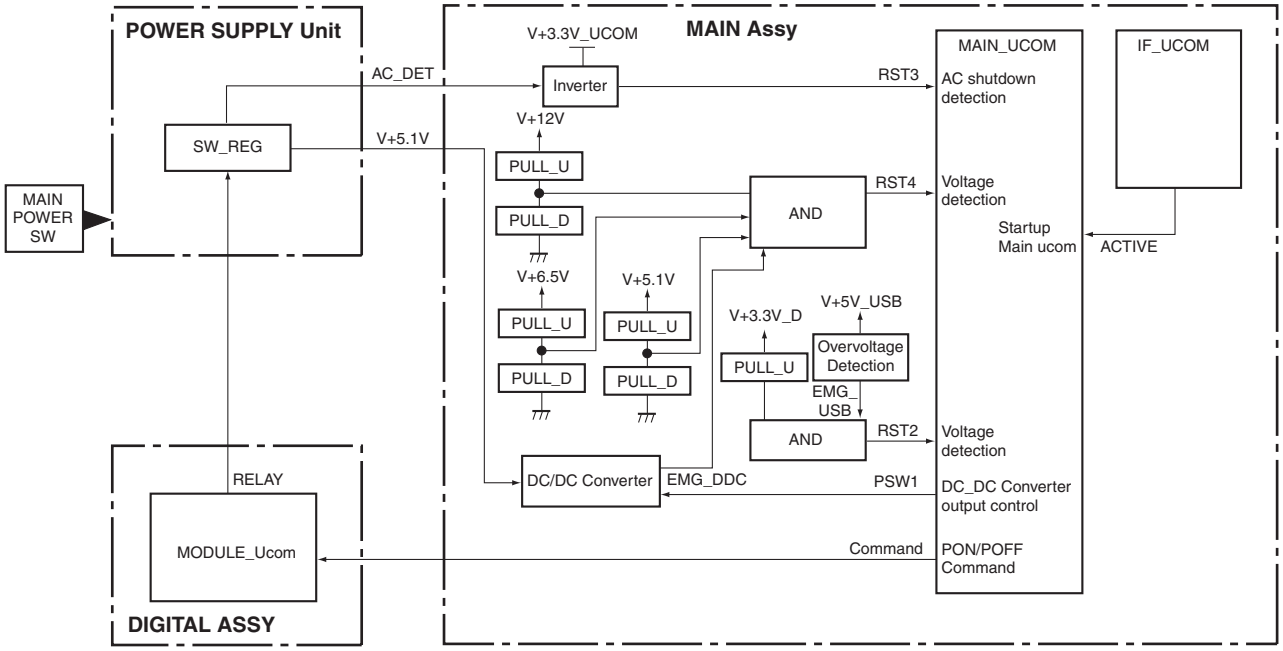


● **Specifications for port monitoring**

Port Name	SD/PD Indication	Active	Monitoring conditions	Operation
ANT_POW_DET	DTB antenna short-circuited	Flashing of the LED starts when the signal is L (100 mS, 3 times)	RST4 = H and ANT_POW_B = L	If "ANT_POW_DET = L" is detected (established) under the monitoring conditions, an SD log is created, and the LED flashes for 60 sec. A shutdown process is not performed in the power system.

Power supply and DC-DC converter

● Circuit configuration

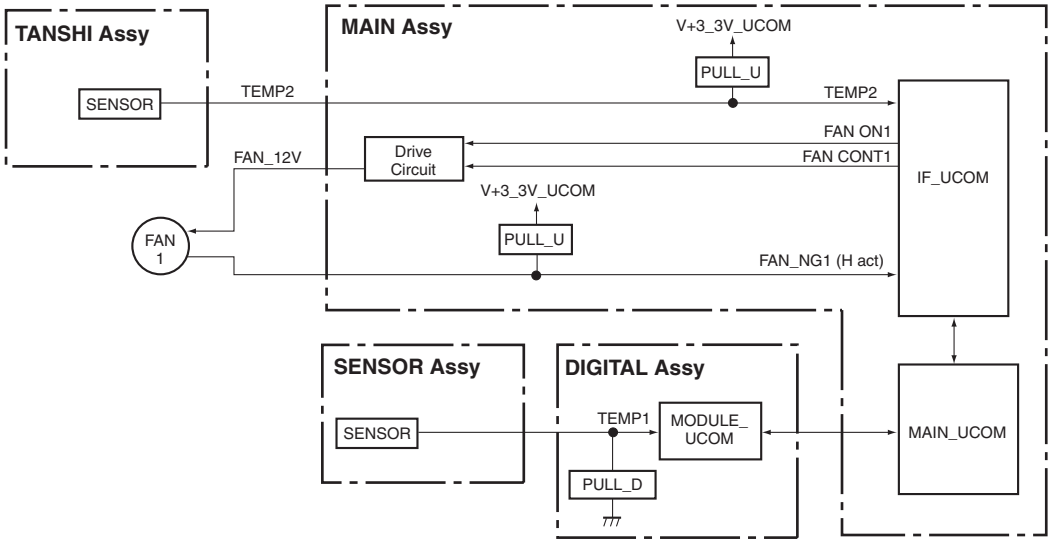


● Specifications for port monitoring

Port Name	SD/PD Indication	Active	Monitoring conditions	Operation
RST2	ASIC power (M-DCDC)	Shutdown occurs when the signal is "L." for 5 sec after PSW1 is ON. or for 2 sec while the unit is ON.	• Panel ON (RST4 = H and PSW1 = L) • While awaiting restoration of RST2 (RST2 = L)	The SD timer starts when "RST2 = L" is detected under monitoring conditions. If "RST3 = H," "M_SW_DET_B = H," or "RST4 = L" is detected, or if a power-down or shutdown in the module microcomputer system is not generated, the unit waits for 30 ms. Then, if the SD timer continues to count for 2 sec or more, a shutdown is determined, and a shutdown process starts. A specific LED flash pattern (blue LED, 13 times) starts. The next PON operation is valid, and the flag is cleared upon the next power-on. If RST2 is H, a restoration process starts according to the latest power-on/-off status.
RST3	AC power	AC_OFF when the signal is "H."	• Active STB (including SD/PD statuses) • Functional STB • Panel ON • (Areas other than North America) While the main power switch is set to OFF (M_SW_DET_B = H) • (North America) While the main power switch is set to OFF (M_SW_DET_B = H) • While awaiting restoration of AC power (RST3 = H) • While awaiting restoration of RST2 (RST2 = L) • While awaiting restoration of RST4 (RST4 = L)	If "RST3 = H" (AC_OFF) is detected under the monitoring conditions, a power-off process starts. Monitoring of the RST3 port is continued, while monitoring of other ports is interrupted. Communication is controlled only by the IF microcomputer. The port outputs are set as specified. If the signal at the RST3 port continues to be H after 30 mS of waiting, monitoring is continued. If RST3 is L, a restoration process starts according to the latest power-on/-off status.
RST4	MAIN power (RELAY)	Shutdown occurs if the signal is "L." for 5 sec after RELAY is ON. or for 2 sec while the unit is ON or in Functional STB.	• Functional STB • Panel ON • (Areas other than North America) While the main power switch is set to OFF (M_SW_DET_B = H) • While awaiting restoration of RST2 (RST2 = L) • While awaiting restoration of RST4 (RST4 = L)	The SD timer starts when "RST4 = L" (power-off of devices in the functional STB system) is detected under monitoring conditions. The RST4 initialization process starts, and input monitoring, communication setting, and output-terminal setting are performed. The RST4-SD timer starts. If either "RST3 = H" or "M_SW_DET_B = H" is detected, or if a power-down or shutdown in the module microcomputer system is not generated, the unit waits for 30 mS. Then, if the SD timer continues to count for 2 sec or more, a shutdown is determined, and a shutdown process starts. A specific LED flash pattern (blue LED, 13 times) starts. The next PON operation is valid, and the flag is cleared upon the next power-on. If RST4 is H, a restoration process starts according to the latest power-on/-off status.

Fan and temperature sensor

● Circuit configuration



● Specifications for port monitoring

Port Name	SD/PD Indication	Active	Monitoring conditions	Operation
FAN_NG1	FAN1	Shutdown occurs when the signal is "H." 1 S ∗ 3 times	RST4 = H and FAN_ON1 = H (Monitoring starts 3 sec after the above conditions are established.)	If FAN_NG1 (for details on detection logic, see "File of fan-control specifications") is detected (established) under the monitoring conditions, a shutdown process starts. A specific LED flash pattern (blue LED, 10 times) starts. The next PON operation is valid, and the flag is cleared upon the next power-on.
TEMP2	High temperature at MTB	Shutdown occurs if any values equal to or greater than minimum to require a shutdown are detected. 1 S ∗ 3 times	RST4 = H (Monitoring starts 1 sec after the above conditions are established.)	If any values equal to or greater than minimum to require a shutdown are detected (established) under the monitoring conditions, a warning indication will be displayed for 30 sec, after which a shutdown process starts. A specific LED flash pattern (blue LED, 11 times) starts. The next PON operation is valid, and the flag is cleared upon the next power-on.
TMP_NG	High temperature in the drive circuits	Shutdown occurs if any values equal to or greater than minimum to require a shutdown are detected. 200 mS ∗ 5 times (average)	Digital video RST2 = H	If any values equal to or greater than minimum to require a shutdown is detected (established) under the monitoring conditions, those changes in status will be transmitted to the main microcomputer via the UART. Upon receiving the data, a warning indication will be displayed for 30 sec, after which a shutdown process starts. The main microcomputer orders a specific LED flash pattern (blue LED, 4 times). The next PON operation is valid, and the flag is cleared upon the next power-on.
	Low temperature in the drive circuits			If any values equal to or greater than minimum to require a shutdown is detected (established) under the monitoring conditions, those changes in status will be transmitted to the main microcomputer via the UART. Upon receiving the data, the main microcomputer orders a specific LED flash pattern (blue LED, 4 times). The next PON operation is valid, and the flag is cleared upon the next power-on.

6. SERVICE FACTORY MODE

6.1 OUTLINE OF THE SERVICE FACTORY MODE

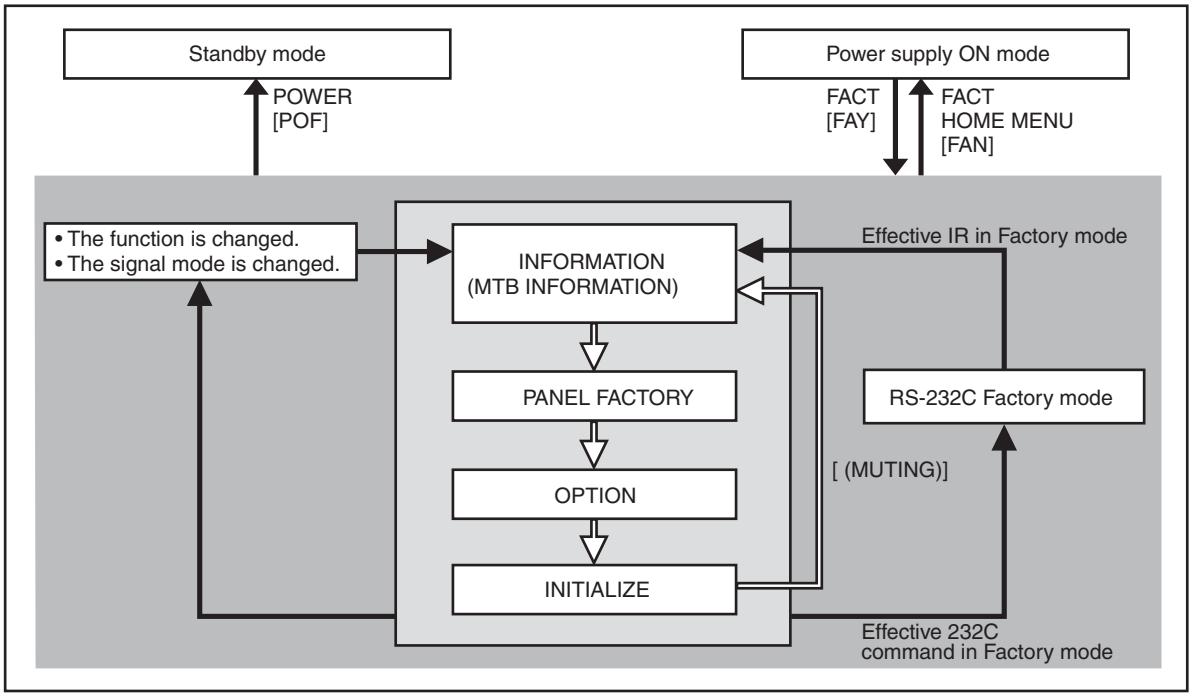
Operations during Service Factory mode are described here.

Before entering Factory mode of the PDP, make sure that the "HD AV Converter" setting on the PDP menu is set to "Disable." If it is set to "Enable," change it to "Disable" then enter Factory mode.

To confirm the "HD AV Converter" setting on the PDP menu, proceed as follows:
Select HOME MENU, Option, then HD AV Converter in HDMI Control Setting.

Note: If "HD AV Converter" is set to "Enable," the video/audio signals will not be displayed/output even if external equipment is connected via input connectors other than INPUT 4 of the PDP.

6.1.1 SERVICE FACTORY MODE TRANSITION CHART



6.1.2 HOW TO ENTER/EXIT SERVICE FACTORY MODE

■ How to enter Service Factory Mode

By using a PDP service remote control)
- PDP service remote control : Press [FACTORY] key.

By issuing RS-232C commands)
- During normal Standby mode : Issue [PON] then [FAY].
- During normal operation mode : Issue [FAY].

■ How to exit Service Factory Mode

By using a PDP service remote control)
- PDP service remote control : press [FACTORY] key.
- Supplied remote control unit : press [HOME MENU] key.

By issuing RS-232C commands)
- Issue [FAN].

■ How to enter Service Factory Mode by Using the supplied Remote Control Unit

- Same as previous model. Please refer to the technical document (Service Know-how).

6.1.3 FUNCTIONS WHEN ENTERING THE SERVICE FACTORY MODE

■ Fuctions whose setting are set to OFF

The settings for the following functions are set to OFF when Service Factory mode is entered (including when the “FAY” command is received) :

Function	Remarks
2-Screen Operation	Input function set on the main side is selected.
FREEZE	
Auto size, Side Mask	It is not performed during Factory mode.
ORBITER, Mask control	Central value operation (ORBITER)
Sleep Timer	Cancel the operation.
Room light sensor	Turn off the detecting operation excepting Regular A, D model (Setting data will be retained.)
Blue LED dimmer	Turn off the operation (Setting data will be retained.)
Power control	Turn off the operation (Setting data will be retained.)
Image position	Central value operation

■ User data

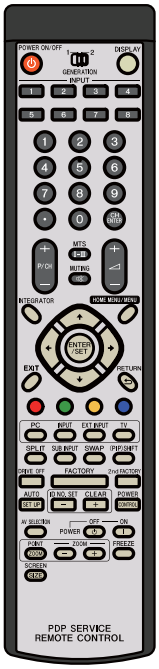
User data will be treated as follows :

- User data on picture-quality and audio-quality adjustments are not reflected, and factory-preset data are output (user data will be retained in memory). When the unit enters Service Factory mode, the current audio-quality adjustment data will be still be retained in memory.
- User-setting data will be applied to the various settings (items on the menus), signal formats, and the items that are associated with path change (HDMI settings, etc.).
- Data on screen (i.e., screen position; meaning clock dividers, and not including data on screen size). Are reset to the default values (data stored in memory will be retained). Screen size will be retained.

6.1.4 REMOTE CONTROL CODE IN SERVICE FACTORY MODE

Remote Control Keys	Basic Functions	Remarks
MUTING	Switching the main items.	Shifting to the next main item (top).
⬇ (DOWN)	Switching the subtitled items.	Shifting downward to the next subtitiled item.
⬆ (UP)	Switching the subtitled items.	Shifting upward to the next upper layer.
⬅ (LEFT)	Decreasing the adjustment value.	Decreasing the adjustment value.
➡ (RIGHT)	Increasing the adjustment value.	Increasing the adjustment value.
ENTER/SET	Switching the layers.	Shifting downward or upward to the next lower or upper layer.
INPUT	Selecting INPUT.	Shifting the INPUT to the next function.
INPUTxx	Selecting INPUT.	Switching the INPUT to xx. (xx=1 to 6 etc)
CH+/P+	Increasing the channel number.	
CH-/P-	Decreasing the channel number.	
Numeric Keys	Function: TV	Function: TV (previously selected channel number is selected)
POWER	Power OFF.	Turning the power off.
FACTORY	Factory OFF (Factory mode)	In Factory mode, turning Factory mode off.
	Factory ON (Non-Factory mode).	In Non-Factory mode, turn Fuctory mode on.
HOME MENU	Menu ON.	In Factory mode, turn Factory mode off.
VOLUME+	Volume UP.	Increasing 10 the adjustment value. (PANEL FACTORY)
VOLUME-	Volume DOWN.	Decreasing 10 the adjustment value. (PANEL FACTORY)
DRIVE OFF (Note1)	Drive Mode OFF.	Turning Drive mode off.
INTEGRATOR	INTEGRATOR MENU ON.	Enter INTEGRATOR MODE.

(Note 1) When ten seconds have passed since the [DRIVE OFF] key was pressed at the standby, it becomes invalid. Please press [POWER] key from the [DRIVE OFF] key pressing within ten seconds when you do power supply ON while driven OFF.

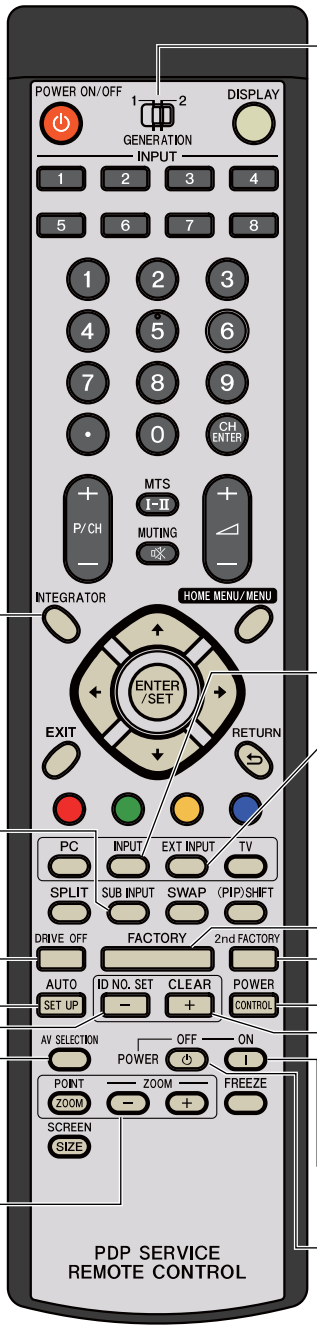


PDP service remote control

PDP-LX6080D
PDP-LX608D

6.1.5 PDP SERVICE REMOTE CONTROL

- The keys labeled with the same names on the service remote control unit have the same functions as those of the supplied remote control unit. (See "2.3 PANEL FACILITIES.")
- For the keys not provided on the supplied remote control unit, see the explanations below:



GENERATION switch for remote control codes
This switch selects the generation of remote control codes to be transmitted:
1: The old-generation codes are transmitted.
2: The new-generation codes are transmitted.
With this generation plasma display, set the switch to 2.

INTEGRATOR
Press this key to enter Integrator mode.

INPUT
Press this key to cyclically change the input source.

EXT INPUT
Press this key to cyclically change only the external input source.

SUB INPUT
Not used with this model.

DRIVE OFF
Press this key to turn off the panel drive. For details on how to cancel this command, see the explanation for the DRV command.

FACTORY
Press this key to enter Factory mode.

2nd FACTORY
Not used with this model.

AUTO SETUP
Use this key for automatic setup, such as the display position setting when an analog PC signal is input.

ID NO. SET
Not used with this model.

POWER CONTROL
Not used with this model.

CLEAR
Not used with this model.

AV SELECTION
The AV SELECTION settings are changed cyclically.

POWER ON
Press this key to turn on the unit. This key cannot turn the unit off.

POWER OFF
Press this key to turn off the unit. This key cannot turn the unit on.

POINT ZOOM
Not used with this model.

ZOOM +/-
Not used with this model.

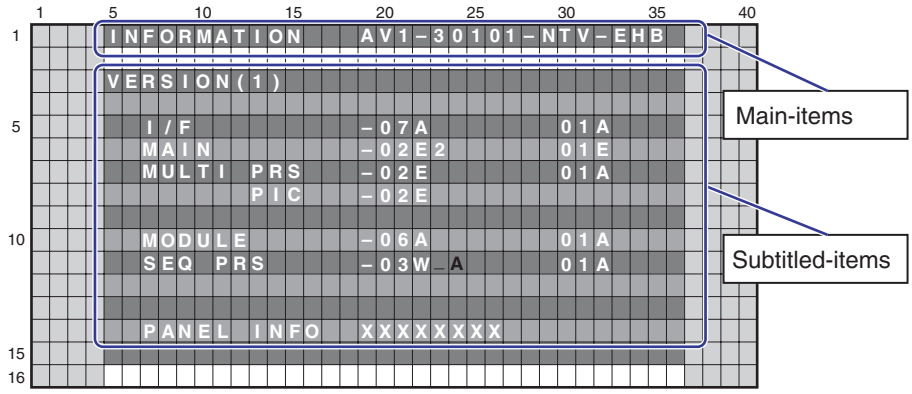
6.1.6 FACTORY HIERARCHICAL TABLE

Large Item	Middle Item	Small Item	Variable / Adjustment Range	Remarks
6.2.1 INFORMATION				
	6.2.1.1 VERSION (1)			
	6.2.1.2 VERSION (2)			
	6.2.1.3 MAIN NG	CLEAR <=>	NO <=> YES	
	6.2.1.4 TEMPERATURE			
	6.2.1.5 HOUR METER			
	6.2.1.6 HDMI SIGNAL INFO 1			
	6.2.1.7 HDMI SIGNAL INFO 2			
	6.2.1.8 VDEC SIGNAL INFO 1			
	6.2.1.9 VDEC SIGNAL INFO 2			
6.2.2 PANEL FACTORY (+)				
	6.2.2.1 PANEL INFORMATION			
	6.2.2.2 PANEL WORKS			
	6.2.2.3 POWER DOWN			
	6.2.2.4 SHUT DOWN			
	6.2.2.5 PANEL-1 ADJ (+)	VOL SUS <=>	000 to 255	Equivalent to VSU (Setting value: Factory adjustment value)
		VOL OFFSET <=>	000 to 255	Equivalent to VOF (Setting value: Factory adjustment value)
		VOL RST P <=>	000 to 255	Equivalent to VRP (Setting value: Factory adjustment value)
		VOL XPOFS1 <=>	000 to 255	Equivalent to VX1 (Setting value: Factory adjustment value)
		VOL XPOFS2 <=>	000 to 255	Equivalent to VX2 (Setting value: Factory adjustment value)
		VOL YNOFS1 <=>	000 to 255	Equivalent to VY1 (Setting value: Factory adjustment value)
		VOL YNOFS3 <=>	000 to 255	Equivalent to VY3 (Setting value: Factory adjustment value)
		VOL YNOFS4 <=>	000 to 255	Equivalent to VY4 (Setting value: Factory adjustment value)
		RESET1ST_KSB <=>	112 to 144	Equivalent to R1K (Setting value: 128 fixed)
		RESET2ND_KSB <=>	112 to 144	Equivalent to R2K (Setting value: 128 fixed)
		YSTL_1SF_KSB <=>	112 to 144	Equivalent to Y1K (Setting value: 128 fixed)
		YSTL_1SF_HZ <=>	112 to 144	Equivalent to Y1Z (Setting value: 128 fixed)
		XSUS_1ST_B <=>	112 to 144	Equivalent to X1B (Setting value: 128 fixed)
		YSUS_2ND_B <=>	112 to 144	Equivalent to Y2B (Setting value: 128 fixed)
		XSUS_3RD_B <=>	112 to 144	Equivalent to X3B (Setting value: 128 fixed)
		YSUS_B <=>	112 to 144	Equivalent to YSB (Setting value: 128 fixed)
		XSUS_B <=>	112 to 144	Equivalent to XSB (Setting value: 128 fixed)
		YSTL_KSB <=>	112 to 144	Equivalent to YTK (Setting value: 128 fixed)
		YSTL_HZ <=>	112 to 144	Equivalent to YTZ (Setting value: 128 fixed)
		YSTL_2SF_KSB <=>	112 to 144	Equivalent to Y2K (Setting value: 128 fixed)
		YSTL_2SF_HZ <=>	112 to 144	Equivalent to Y2Z (Setting value: 128 fixed)
		YSTL_FMR_KSB <=>	112 to 144	Equivalent to YNK (Setting value: 128 fixed)
		YSTL_FMR_HZ <=>	112 to 144	Equivalent to YNZ (Setting value: 128 fixed)
		SUS FREQ. <=>	MODE 1 to MODE 8	Equivalent to SFR (Setting value: MODE1)
	6.2.2.6 PANEL-2 ADJ (+)	R-HIGH <=>	000 to 511	Equivalent to PRH (Setting value: Factory adjustment value)
		G-HIGH <=>	000 to 511	Equivalent to PGH (Setting value: Factory adjustment value)
		B-HIGH <=>	000 to 511	Equivalent to PBH (Setting value: Factory adjustment value)
		R-LOW <=>	000 to 999	Equivalent to PRL (Setting value: 512 fixed)
		G-LOW <=>	000 to 999	Equivalent to PGL (Setting value: 512 fixed)
		B-LOW <=>	000 to 999	Equivalent to PBL (Setting value: 512 fixed)
		ABL <=>	000 to 255	Equivalent to ABL (Setting value: Factory adjustment value)
	6.2.2.7 PANEL FUNCTION (+)	R-LEVEL <=>	LV-0 to LV-7	Equivalent to RRL (Setting value: Lv-2)
		G-LEVEL <=>	LV-0 to LV-7	Equivalent to RGL (Setting value: Lv-1)
		B-LEVEL <=>	LV-0 to LV-7	Equivalent to RBL (Setting value: Lv-0)
		ADDRESS L1 <=>	PH0 to PH9	Equivalent to AP0S*- (Setting value: PH0)
		ADDRESS L2 <=>	PH0 to PH9	Equivalent to AP0S-* (Setting value: PH1)
		ADDRESS L3 <=>	PH0 to PH9	Equivalent to AP1S*- (Setting value: PH2)
		ADDRESS L4 <=>	PH0 to PH9	Equivalent to AP1S-* (Setting value: PH0)
		ADDRESS U1 <=>	PH0 to PH9	Equivalent to AP2S*- (Setting value: PH0)
		ADDRESS U2 <=>	PH0 to PH9	Equivalent to AP2S-* (Setting value: PH1)
		ADDRESS U3 <=>	PH0 to PH9	Equivalent to AP3S*- (Setting value: PH2)
		ADDRESS U4 <=>	PH0 to PH9	Equivalent to AP3S-* (Setting value: PH0)
		STK MODE <=>	OFF <=> MODE1 to MODE8 <=>	Equivalent to SMK (Setting value: MODE1)
	6.2.2.8 ETC. (+)	BACKUP DATA <=>	NO OPRT <=> TRANSFER or ERR	Equivalent to BCP
		DIGITAL EEPROM <=>	NO OPRT <=> DELETE/REPAIR	Equivalent to FAJ/UAJ
		PD INFO. <=>	NO OPRT <=> CLEAR	Equivalent to CPD
		SD INFO. <=>	NO OPRT <=> CLEAR	Equivalent to CSD
		HR-MTR INFO. <=>	NO OPRT <=> CLEAR	Equivalent to CHM
		PM/B1-B5 <=>	NO OPRT <=> CLEAR	Equivalent to CPM
		P COUNT INFO. <=>	NO OPRT <=> CLEAR	Equivalent to CPC
		MAX TEMP. <=>	NO OPRT <=> CLEAR	Equivalent to CMT
	6.2.2.9 RASTER MASK SETUP (+)	MASK OFF	<=> 48V <=> 50V <=> 60V <=> 60P <=> 72V <=> 75V <=>	Equivalent to MKS+S00
		RST MASK 01 <=>		Equivalent to MKS+S51
		• • •		• • •
		RST MASK 25 <=>		Equivalent to MKS+S75

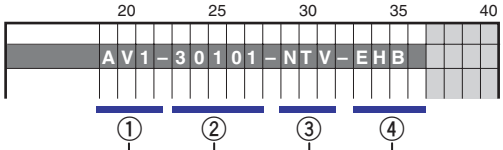
*: Setting value

Large Item	Middle Item	Small Item	Variable / Adjustment Range	Remarks
6.2.2 PANEL FACTORY (+)				
	6.2.2.10 PATTERN MASK SETUP (+)	MASK OFF	<=> 48V <=> 50V <=> 60V <=> 60P <=> 72V <=> 75V <=>	Equivalent to MKS+S00
		PTN MASK 01 <=>		Equivalent to MKS+S01
		• • •		• • •
		PTN MASK 49 <=>		Equivalent to MKS+S49
	6.2.2.11 COMBI MASK SETUP (+)	MASK OFF	<=> 48V <=> 50V <=> 60V <=> 60P <=> 72V <=> 75V <=>	Equivalent to MKC+S00
		CMB MASK 01 <=>		Equivalent to MKC+S01
		• • •		• • •
		CMB MASK 17 <=>		Equivalent to MKC+S17
6.2.3 OPTION				
	6.2.3.1 EDID WRITE MODE <=>		DISABLE <=> ENABLE	Exclusively used for production line
	6.2.3.2 CH PRESET <=>		USER <=> FACTORY	
	6.2.3.3 SYNC DET (+)			for the technical analysis
6.2.4 INITIALIZE				
	6.2.4.1 SIDE MASK LEVEL (+)	SIDE MASK LEVEL <=>		
	6.2.4.2 FINAL SETUP	DATA RESET <=>	NO <=> YES	
	6.2.4.3 Wide XGA AUTO <=>		DISABLE <=> ENABLE	Exclusively used for technical analysis (details omitted)

6.1.7 INDICATIONS IN SERVICE FACTORY MODE



■ Main-item indications



① Input function

Input Functions	OSD
AV 1 to 5	AV 1 to 5
Terrestrial Analog Wave	AIR
Terrestrial Digital Wave (excepting Regular A model)	ARD
Cable	CBL
Home Gallery (Step-up D model only)	HG
PC	PC

② SIG mode and Screen size

Note: See SIG-Mode Tables. (See next page.)

③ Color system and Signal type

Color System and Signal Type	OSD	
	At Composite Input	At S-connector Input
NTSC	NTV	NTS
PAL	PLV	PLS
PAL M	PMV	PMS
PAL N	PNV	PNS
PAL 60	P6V	P6S
SECAM	SCV	SCS
4.43 NTSC	4NV	4NS
BLACK/WHITE	BWV	BWS
Y/CB/CR	CBR	
Y/PB/PR	PBR	
RGB	RGB	
Digital Video signal	DIG	

④ Option (Destination, Panel Generation, etc.)

Options	OSD
Step-up D model	EHB

② SIG Mode and Screen size (by User is displayed)

1st and 2nd characters : Resolution of the input signal
3rd and 4th characters : Refresh rate of the input signal
5th character : Selection of the screen size

■ Input signal mode table for video signals (resolutions and V frequencies)

1st to 4th Character		Signal Type	Fv (Hz)	Fh (kHz)
10	50	SDTV*625i	50.000	15.750
	60	SDTV*525i	60.000	15.750
20	50	SDTV*625p	50.000	31.500
	60	SDTV*525p	60.000	31.500
30	50	HDTV*1125i	50.000	33.750
	60	HDTV*1125i	60.000	33.750
40	50	HDTV*750p	50.000	45.000
	60	HDTV*750p	60.000	45.000
50	24	HDTV*1125p	24.000	27.000
	50	HDTV*1125p	50.000	56.250
	60	HDTV*1125p	60.000	67.500

Fv: Vertical Frequency, Fh: Horizontal Frequency

■ Input signal mode table for PC signals (resolutions and V frequencies)

1st to 4th Character		Signal Type	Fv (Hz)	Fh (kHz)
C1	70	720 x 400	70.087	31.469
C2	60	640 x 480	59.940	31.469
C4	60	800 x 600	60.317	37.879
C6	60	1280 x 720	60.000	44.800
C7	60	1024 x 768	60.004	48.363
C9	60	1360 x 768	60.015	47.712
D6	60	1280 x 1024	60.000	64.000

Fv: Vertical Frequency, Fh: Horizontal Frequency

■ Current selection of the screen size

5th Character	GUI Notation	VIDEO	PC	Remarks
0	DOT BY DOT	● (∗)	–	
1	4:3	●	●	
2	FULL	●	●	
3	ZOOM	●	–	
4	CINEMA	●	–	
5	WIDE	●	–	
6	FULL 14:9	●	–	
7	CINEMA 14:9	●	–	

●: supported, –: unsupported

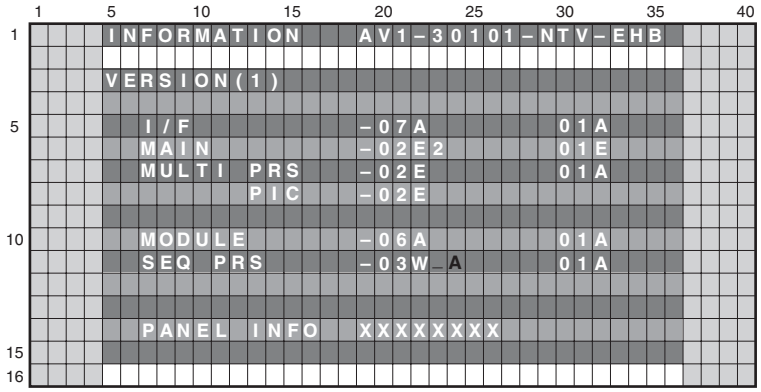
(∗): It is effective only with models having the Full HD panel.

6.2 DETAILS OF FACTORY MENU
6.2.1 INFORMATION

■ **Operation items**

No.	Function/Display	Context	RS-232C Command
6.2.1.1	VERSION (1)	The software versions for each microcomputer are displayed. (Common part)	QS1
6.2.1.2	VERSION (2)	The Flash memory versions for each device are displayed. (Individual part)	QSE
6.2.1.3	MAIN NG	The Shutdown Message ID/Event Times in Main Microcomputer are displayed.	QNG
6.2.1.4	TEMPERATURE	The Temperature/FAN rotating status in Main Microcomputer are displayed.	QMT
6.2.1.5	HOUR METER	The HOUR METER/P-COUNT information are displayed.	QS3
6.2.1.6	HDMI SIGNAL INFO 1	The Information of HDMI information files are displayed.	–
6.2.1.7	HDMI SIGNAL INFO 2		
6.2.1.8	VDEC SIGNAL INFO 1	Display the Signal Information on VDEC.	–
6.2.1.9	VDEC SIGNAL INFO 2		

6.2.1.1 VERSION (1)

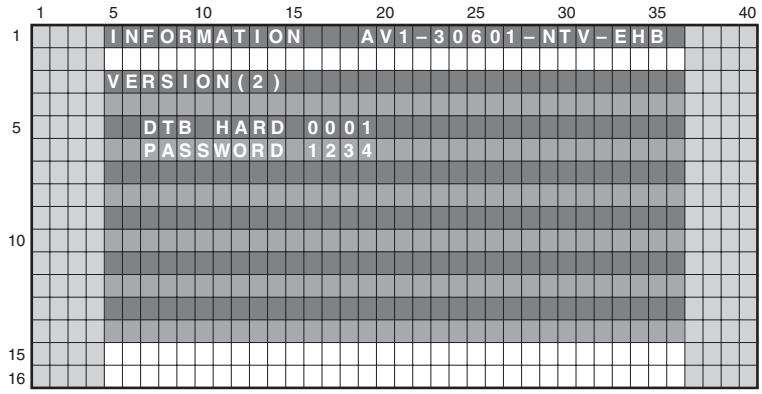


Microcomputer	Item Name	Display Example (Execution program block)	Display Example (Boot block)
I/F microcomputer	I/F	-07A	01A
Main microcomputer	MAIN	-02E2	01E
Multi processor	MULTI PRS	-02E	01A
Multi processor	MULTI PIC	-02E	
Module microcomputer	MODULE	-06A	01A
Sequence processor	SEQ PRS	-03W_A	01A

Note: In the 29-32 rows, the Boot version information on each device is displayed.
In the 19-24 rows, the version of the execution program is displayed.

• **PANEL INFO:** It displays the generation of the panel, inchage and the type of the panel. For details on display values and settings, see "10: Panel Information" in "9.3.1. QS1 (PANEL STATUS)."

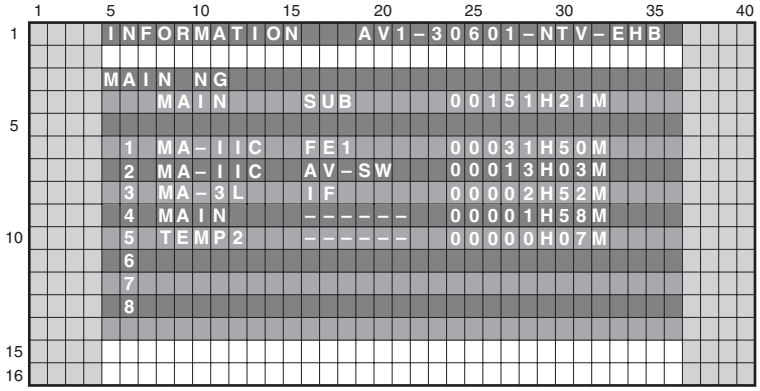
6.2.1.2 VERSION (2)



Step-up D

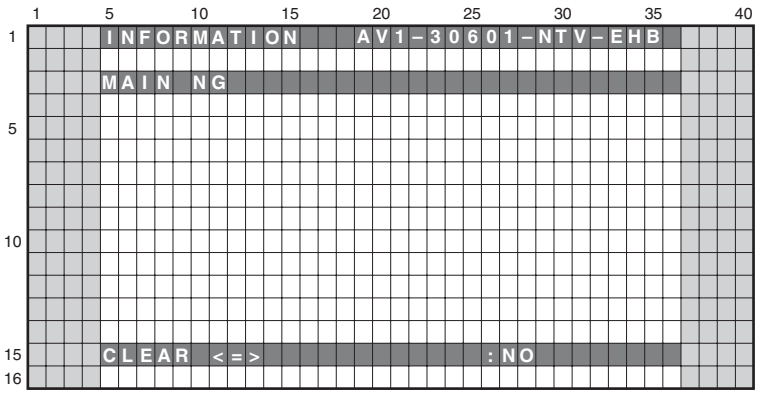
Meaning	Item Name	Display Example
DTV Hardware Version	DTV HARD	0001
User Password	PASSWORD	1234

6.2.1.3 MAIN NG



MTB side's Shutdown NG information

OSD: MAIN	OSD: SUB	Cause of Shutdown
AUDIO	----	Short-circuit of the speaker terminal or failure of audio amplifier.
MODULE	----	Failure of communication to Module microcomputer.
MA-3L		3-wire Serial Communication of Main microcomputer.
	IF	Communication failure of IF microcomputer
	MULTI	Multi Processor communication failure
MA-IIC		IIC Communication failure of Main microcomputer
	FE1	Analog Tuner 1
	MSPMAP	MSP/MAP
	AV-SW	AV Switch
	RGB-SW	RGB Switch
	VDEC	VDEC
	SDRAM	VDEC-SDRAM
	ADC	AD/PLL
	HDMI	HDMI
	DEMOD	COFDM error
MAIN		Communication failure of Main microcomputer
FAN	FAN1	Fan stopped
	FAN2	Fan stopped (Only with models having the Full HD panel)
TEMP2		Abnormally high temperature at MTB.
DTUNER		Failure of Digital Tuner
	PS/RST	Failure to DTV Starting
	D-ANT	Abnormally in the anntenna power supply of DTV tuner
RST-MA	M-DCDC	Abnormally in RST2 of MTB. (power decrease of DC-DC converter)
	RELAY	Relay Power Supply
MA-EEP		IIC communication line between EEPROM and MAIN

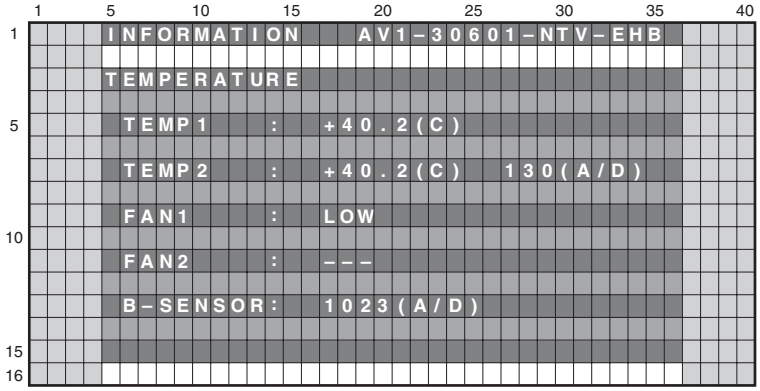


Operation:

Even if [⬅] key or [➡] key is pressed, {CLEAR <=> :YES} ⇔ {CLEAR <=> :NO} is repeated.
If the [ENTER/SET] key is kept on pressing for 5 second when the status of this menu is <YES>, clear process will begin.

6.2.1.4 TEMPERATURE

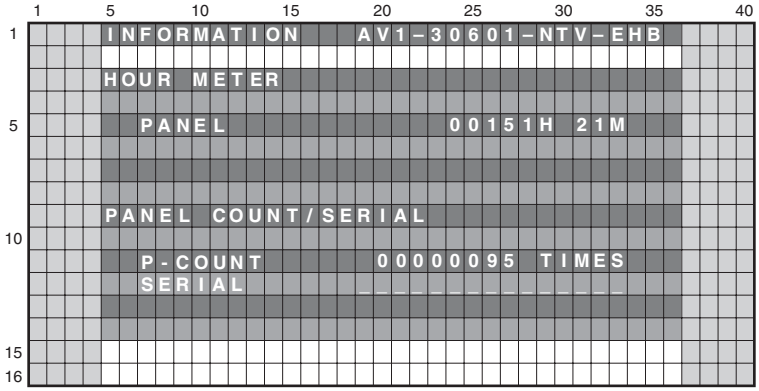
A present temperature and the FAN rotation are displayed.
If either [⬅] key or [➡] key is pressed, the display data is refreshed.



• Display/Meaning

TEMP1 : The temperature of the sensor on the panel side is displayed by the centigrade.
TEMP2 : The temperature conversion display is done with 10 bit the A/D input value of IF uCOM 90 pin (AN4). It is displayed by both the centigrade (C) and 8 bit A/D value.
(Remark:When temperature (C) of the sensor becomes more than a specified temperature, the shutdown start of processing.)
FAN1 : The value of the FAN rotating state is displayed.
STOP: stopped, LOW: slow speed, HIGH: high speed.
FAN2 : The value of the rotation state of FAN is displayed.
During a rotation of FAN, 8bit D/A value output from 2 pin (DA0) of IF uCOM is displayed.
It is displayed with OFF during a stop (only for the FHD model).
B-SENSOR : The value that indicated the degree of brightness input into an Room light sensor is displayed.
AD value when the output of the Room light sensor was input into 89 pin (AN5) of IF uCOM is displayed.
However, the Regular A, D model is not displayed.

6.2.1.5 HOUR METER

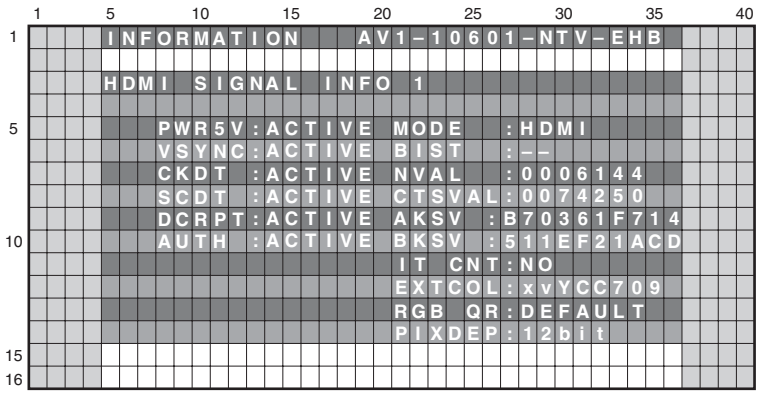


• Display/Meaning

Meaning	Item Name	Display Example	Corresponding RS-232C Command
HOUR METER (PANEL)	PANEL	00151H 21M	QS3
POWER ON COUNTER	P-COUNT	00000095 TIMES	QS3
SYSTEM SERIAL	SERIAL		QS3

Note: The PANEL-side's HOUR METER/P-COUNT acquires information from the PANEL-side.

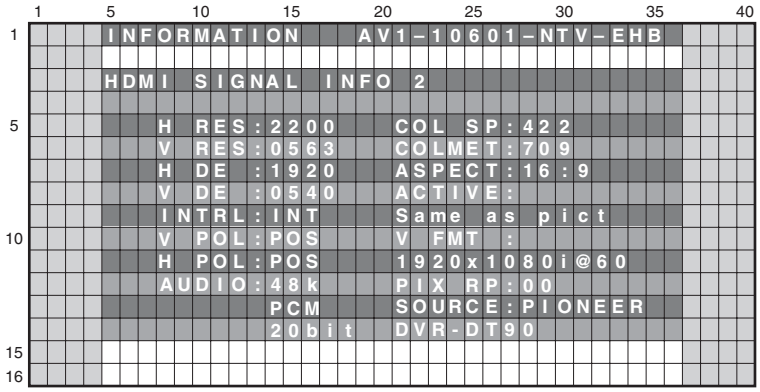
6.2.1.6 HDMI SIGNAL INFO 1



Displays the input signal information of HDMI terminal

Item	Meaning
PWR5V	+5 V power detection (18 pin of HDMI terminal)
VSYNC	VSYNC detection
CKDT	Clock detection
SCDT	SYNC detection
DCRPT	HDCP decryption status
AUTHEN	HDCP authentication status
MODE	HDMI mode status
BIST	----
NVAL	N value
CTSVAL	CTS value
AKSV	Shadow AKSV value
BKSV	Shadow BKSV value
IT CNT	IT content (AVI info)
EXTCOL	Extension calorimetry (AVI info)
RGV QR	RGB range (AVI info)
PIXDEP	Number of pixel/bit

6.2.1.7 HDMI SIGNAL INFO 2



Displays input signal status of HDMI terminal

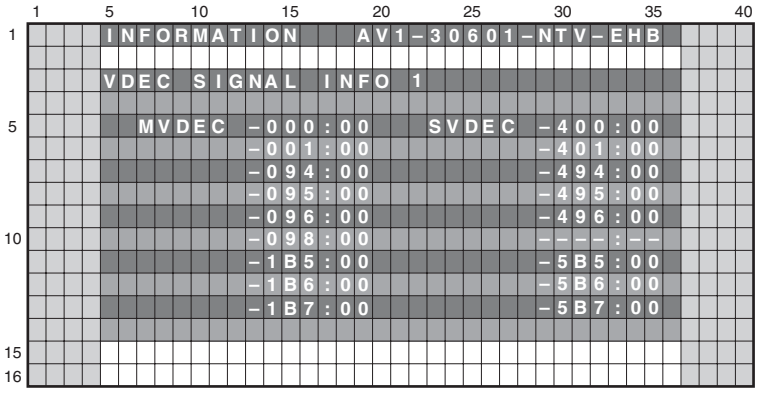
Display Item	Meaning
H RES	Number of horizontal pixels (decimal)
V RES	Number of vertical lines (decimal)
H DE	Number of effectively horizontal pixels (decimal)
V DE	Number of effectively vertical lines (decimal)
INTRL	Interlace (=INT) or progressive (=PRG)
V POL	VSYNC polarity
H POL	HSYNC polarity
AUDIO (first line)	Sampling frequency. (ex. DVD: 48kHz, CD: 44.1kHz) *1
AUDIO (second line)	PCM (PCM) or No PCM (=no PCM)
AUDIO (third line)	Quantization bit
COL SP	Color space (AVI Info) (422 or 444 or RGB) *2
COLMET	N/A
ASPECT	Aspect (AVI Info)
ACTIVE	Video active format (AVI Info)
V FMT	Video identification code (AVI Info)
PIX RP	N/A
SOURCE (first line)	Vendor name of the emission device
SOURCE (second line)	Model name of the emission device

*1: Please confirm whether to be displayed here when the sound is not emitted.
*2: There is a possibility of not suitable for the state of the source equipment when the color is amusing.

Display of HDMI FACTORY and correspondence of resolution
Please confirm the following 5 items when the picture doesn't come out.

Input Signal	FACTORY Display				
	H RES	V RES	H DE	V DE	V FMT
480i (525i) @ 60	858	262 or 263	720	240	720x480i @ 60
480p (525p) @ 60	858	525	720	480	720x480p @60
1080i (1125i) @ 60	2200	562 or 563	1920	540	1920x1080i @ 60
720p (750p) @ 60	1650	750	1280	720	1280x720p @ 60
1080p (1125p) @ 60	2200	1125	1920	1080	1920x1080p @ 60
576i (625i) @ 50	864	312 or 313	720	288	720x576i @50
576p (625p) @ 50	864	625	720	576	720x576p @ 50
1080i (1125i) @ 50	2640	562 or 563	1920	540	1920x1080i @ 50
720p (750p) @ 50	1980	750	1280	720	1280x720p @ 50
1080p (1125p) @ 50	2640	1125	1920	1080	1920x1080p @50
1080p (1125p) @ 24	2750	1125	1920	1080	1920x1080p @ 24

6.2.1.8 VDEC SIGNAL INFO 1

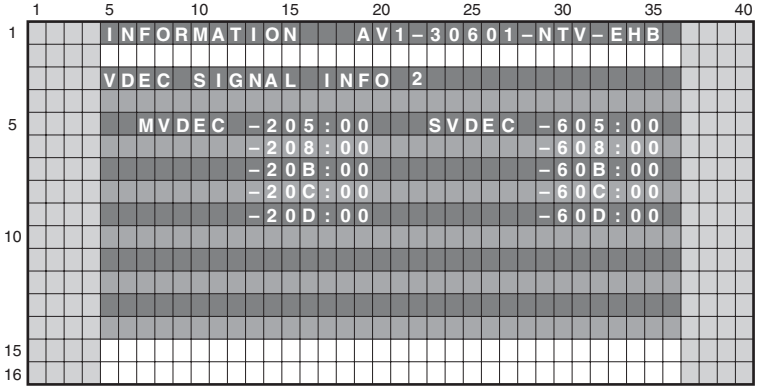


Displays signal status that is input to VDEC.

Device	Sub Address (Main screen)	Sub Address (Sub screen)	Meaning
VDEC	000h	400h	Line system distinction result
	001h	401h	VTR distinction result
	094h	494h	Slot number
	095h	495h	Color system distinction result
	096h	496h	ACC coefficient
	098h	---	3D YC flag
	1B5h	5B5h	MV detection 1
	1B6h	5B6h	MV detection 2
	1B7h	5B7h	MV detection 3

Note: The SVDEC data display in the Regular A, D model, but the value is not settled because the multi-screen display function is not used.

6.2.1.9 VDEC SIGNAL INFO 2



Displays signal status that is input to VDEC.

Device	Sub Address (Main screen)	Sub Address (Sub screen)	Meaning
VDEC	205h	605h	CC detection 1
	208h	608h	CC detection 2
	20Bh	60Bh	CC-CRI detection
	20Ch	60Ch	XDS content advisor 0
	20Dh	60Dh	XDS content advisor 1

Note: The SVDEC data display in the Regular A, D model, but the value is not settled because the multi-screen display function is not used.

6.2.2 PANEL FACTORY (+)

■ Operation Items

This is the menu screen for the adjustment of the panel. Data acquisition and value adjustment can be performed for the following items:

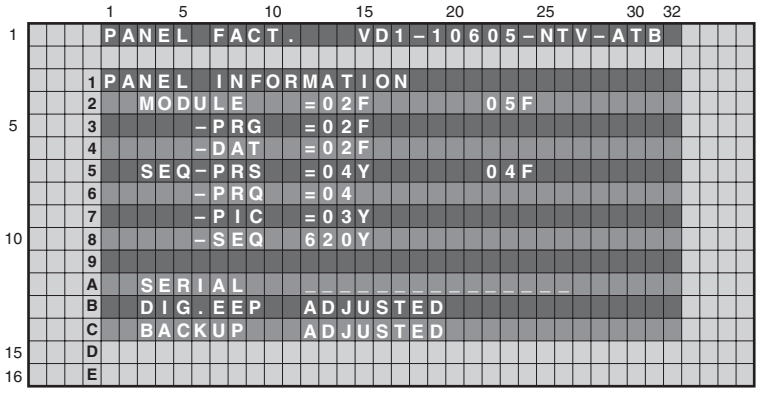
No.	Indication	Description of functions
6.2.2.1	PANEL INFORMATION	Data, such as the version of the microcomputer of the panel, product serial number, and statuses of memories for adjustment values for the main unit and for backup, are displayed.
6.2.2.2	PANEL WORKS	Operation data, such as accumulated pulse-meter count, accumulated hour-meter count, accumulated power-on count, and the temperature detected by the sensor, are displayed.
6.2.2.3	POWER DOWN	The power-down history is displayed, with the hour-meter values that indicate the hour values when power-downs occurred.
6.2.2.4	SHUT DOWN	The shutdown history is displayed, with the hour-meter values that indicate the hour values when shutdowns occurred.
6.2.2.5	PANEL-1 ADJ (+)	Settings of the driving pulse timing and driving voltage can be performed.
6.2.2.6	PANEL-2 ADJ (+)	White balance and ABL (power consumption) for the panel can be set.
6.2.2.7	PANEL FUNCTION (+)	Perform panel-degradation correction-level setting, phase adjustment of the address, and the streaking-correction setting.
6.2.2.8	ETC. (+)	Copying of backup data and clearance of various data can be performed.
6.2.2.9	RASTER MASK SETUP (+)	The mask indication (RASTER) can be set and indicated.
6.2.2.10	PATTERN MASK SETUP (+)	The mask indication (PATTERN) can be set and indicated.
6.2.2.11	COMBI MASK SETUP (+)	The mask indication (COMBI) can be set and indicated.

■ Details of indications in each layer

• In the following examples, GUI images for a 50-inch and 60-inch models are indicated.

6.2.2.1 PANEL INFORMATION

• Data, such as the version of the microcomputer of the panel, product serial number, and statuses of memories for adjustment values for the main unit and for backup, are displayed. No other layers are nested below this layer, and there are no adjustment items.



■ Key operation

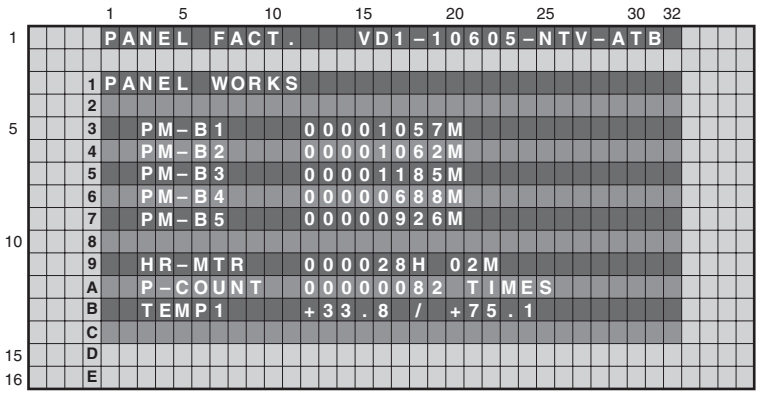
<DOWN> : Shifting to PANEL WORKS
<UP> : Shifting to COMBI MASK SETUP (+)
<L/R> : Updating displayed information

■ Display items:

MODULE : The version of data written in the Module microcomputer (IC3601) is indicated.
-PRG : The program version of the Module microcomputer is indicated.
-DAT : The data version of the Module microcomputer is indicated.
SEQ-PRG : The version of data written in the Sequence LSI (IC3301) is indicated.
-PRG : The program version of the Sequence LSI is indicated.
-PIC : The Picture-data version of the Sequence LSI is indicated.
-SEQ : The sequence-data version of the Sequence LSI is indicated.
SERIAL : The serial number of the module is indicated.
DIG.EEP : The adjusted status of the EEPROM that is mounted on the DIGITAL Assy is indicated.
BACKUP : The adjusted status of the EEPROM for backup that is mounted on the SENSOR Assy is indicated.

6.2.2.2 PANEL WORKS

• Data on operations, such as the accumulated pulse-meter counts, hour-meter count, power-on count, and temperature detected by the sensor, are sent back. No other layers are nested below this layer, and there are no adjustment items.



■ Key operation

<DOWN> : Shifting to POWER DOWN
<UP> : Shifting to PANEL INFORMATION
<L/R> : Updating displayed information

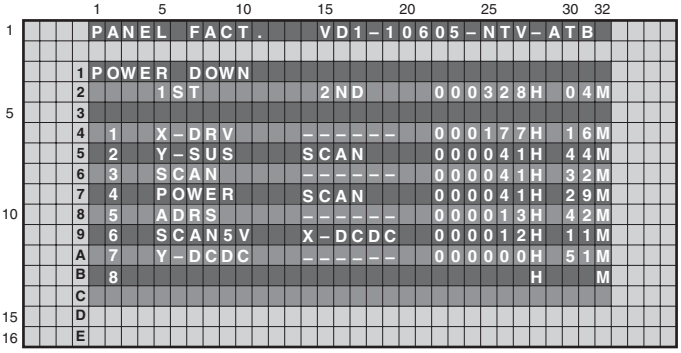
← Temperature unit is " °C (Centigrade) ".

■ Contents of the Display item

• PM-B1 to B5: The accumulated pulse-meter counts for the 5 blocks on the screen are indicated. (the lowest-order digit represents millions of pulses.)
• HR-MTR: The hour-meter value (accumulated power-on hours) is indicated.
• P-COUNT: The accumulated power-on count is indicated.
• TEMP1: The current panel temperature and the historical maximum temperature recorded in memory are indicated. The range of temperature indication is from -50.0 to +99.9. (The temperature unit is " °C (Centigrade) ".)

6.2.2.3 POWER DOWN

- The power-down history is displayed. The last most 8 power-down histories are displayed with the hour-meter values that indicate the hours when power-downs occurred. No other layers are nested below this layer, and there are no adjustment items.


PANEL FACT. VD1-10605-NTV-ATB
POWER DOWN
1ST 2ND 000328H 04M
1 X-DRV ------ 000177H 16M
2 Y-SUS SCAN 000041H 44M
3 SCAN ------ 000041H 32M
4 POWER SCAN 000041H 29M
5 ADRS ------ 000013H 42M
6 SCAN5V X-DCDC 000012H 11M
7 Y-DCDC ------ 000000H 51M
8 H M

■ Key operation

<DOWN> : Shifting to SHUT DOWN
<UP> : Shifting to PANEL WORKS
<L/R> : Updating displayed information

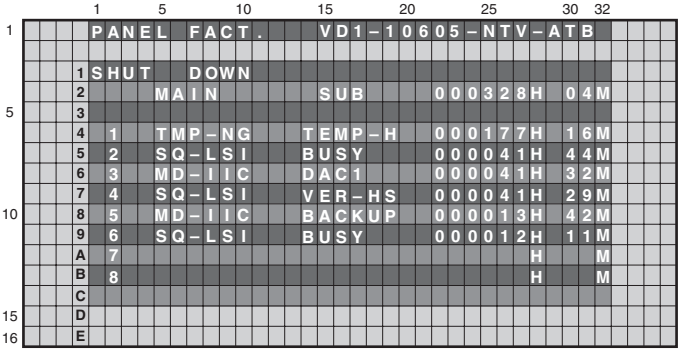
<Causes of power-down and corresponding OSD indications>

Cause of power-down	OSD Indication	Cause of power-down	OSD Indication
POWER SUPPLY Unit	P-PWR	ADDRESS Assy	ADRS
SCAN Assy	SCAN	X DRIVE Assy	XDRV
5 V power for SCAN Assy	SCAN5V	DC/DC converter for X drive	X-DCDC
Y DRIVE Assy	Y-DRV	X-drive SUS circuit	X-SUS
DC/DC converter for Y drive	Y-DCDC	Digital DC/DC converter	D-DCDC
Y-drive SUS circuit	Y-SUS	Unknown	UNKNOWN

* When power-down is confirmed, the factor is displayed as "1st", "2nd", according to the accuracy order.
* The power-down history is not recorded when the power-down occurred at the same place and same time.

6.2.2.4 SHUT DOWN

- The shutdown history is displayed. The last most 8 shutdown histories are displayed with the hour-meter values that indicate the hours when shutdowns occurred. No other layers are nested below this layer, and there are no adjustment items.


PANEL FACT. VD1-10605-NTV-ATB
SHUT DOWN
MAIN SUB 000328H 04M
1 TMP-NG TEMP-H 000177H 16M
2 SQ-LSI BUSY 000041H 44M
3 MD-IIC DAC1 000041H 32M
4 SQ-LSI VER-HS 000041H 29M
5 MD-IIC BACKUP 000013H 42M
6 SQ-LSI BUSY 000012H 11M
7 H M
8 H M

■ Key operation

<DOWN> : Shifting to PANEL-1 ADJ (+)
<UP> : Shifting to POWER DOWN
<L/R> : Updating displayed information

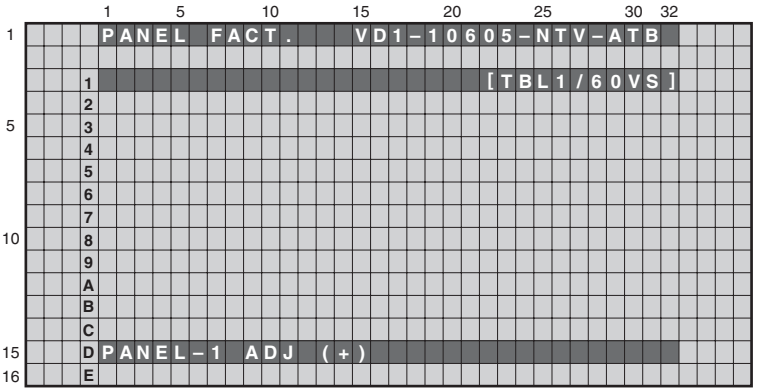
* When there is detail information when shutdown occurred, the possible defective part is displayed as Sub information.

<Cause of shut-down and corresponding OSD Indication >

Cause of shut-down (MAIN)		Cause of shut-down (SUB)	
Item	**OSD Indication**	**Item**	**OSD Indication**
Drive Processing IC	SQ_LSI	Communication Error	RTRY
		Drive Stop	SQ-NON
		Communication Busy	BUSY
		Version mismatching (H/S) (M/S)	VER-HS, VER-MS
MDU-IIC	MD-IIC	MAIN EEPROM Communication Error	EEPROM
		BACKUP EEPROM Communication Error	BACKUP
		DAC1 Communication Error	DAC1
		DAC2 Communication Error	DAC2
Abnormally in RST2 power supply	RST2	–	–
Panel temperature	TMP-NG	High temperature of the panel	TEMP-H
		Low temperature of the panel	TEMP-L

6.2.2.5 PANEL-1 ADJ (+)

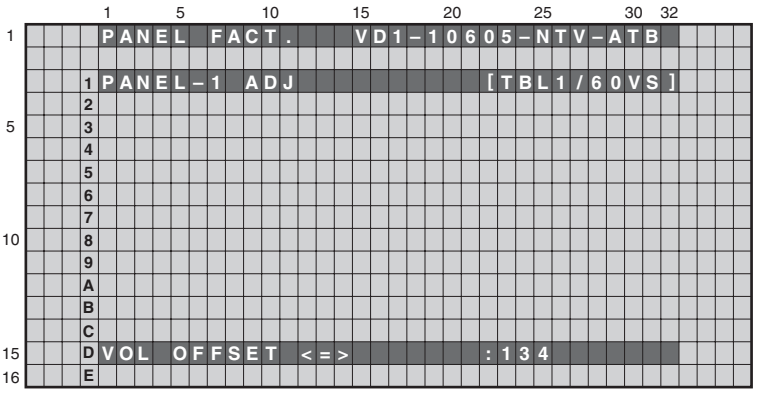
- Timing and voltage for the driving pulse are set. At third line of the screen, the WB (White Balance) table and frequency table indicating operation status are displayed, and at fifteenth line of the screen, the item for the upper nested layer (PANEL-1 ADJ [+]) is displayed. Pressing the ENTER/SET key shifts the screen to the next nested layer below for item selection.



■ **Key operation**

<DOWN> : Shifting to PANEL-2 ADJ (+)
<UP> : Shifting to POWER DOWN
<SET> : Shifting to the next nested layer

- When the screen is shifted to the next nested layer below, the item of the layer above is indicated at third line of the screen, and the item of the layer below is indicated at fifteenth line.
- The configuration of the menu screen is the same for any adjustment item that has lower layers.
- To confirm that the change in the SUS FREQ. setting has resulted in diminishing of AM radio interference in this layer, after changing the setting, turn the unit off then back on.

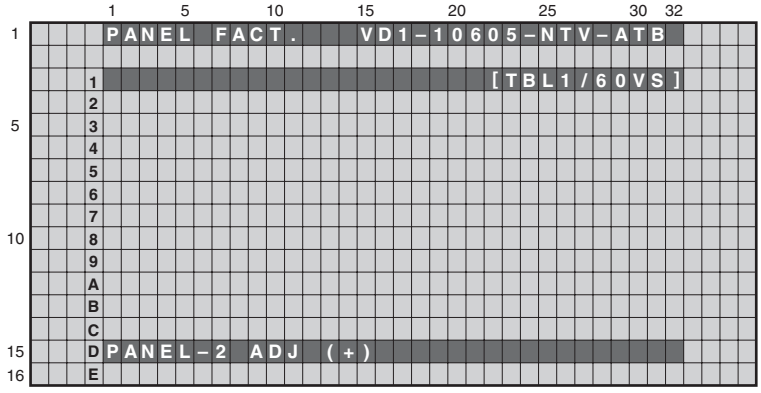


■ **Key operation**

<DOWN> : Shifting to the next item
<UP> : Shifting to the previous item
<RIGHT> : Adding by one to the adjustment/setting value
<LEFT> : Subtracting by one from the adjustment/setting value
<VOL+> : Adding by 10 to the adjustment/setting value
<VOL-> : Subtracting by 10 from the adjustment/setting value
<SET> : Determining the adjustment/setting value and shifting to the upper layer

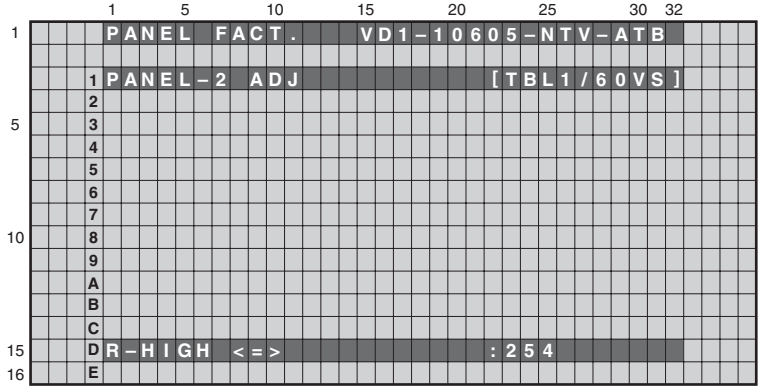
6.2.2.6 PANEL-2 ADJ (+)

- White balance can be adjusted by adjusting R, G, and B gain. Pressing the ENTER/SET key shifts the screen to the next nested layer below for item selection.



■ **Key operation**

<DOWN> : Shifting to PANEL FUNCTION (+)
<UP> : Shifting to PANEL-1 ADJ (+)
<SET> : Shifting to the next nested layer



■ **Key operation**

<DOWN> : Shifting to the next item
<UP> : Shifting to the previous item
<RIGHT> : Adding by one to the adjustment/setting value
<LEFT> : Subtracting by one from the adjustment/setting value
<VOL+> : Adding by 10 to the adjustment/setting value
<VOL-> : Subtracting by 10 from the adjustment/setting value
<SET> : Determining the adjustment/setting value and shifting to the upper layer

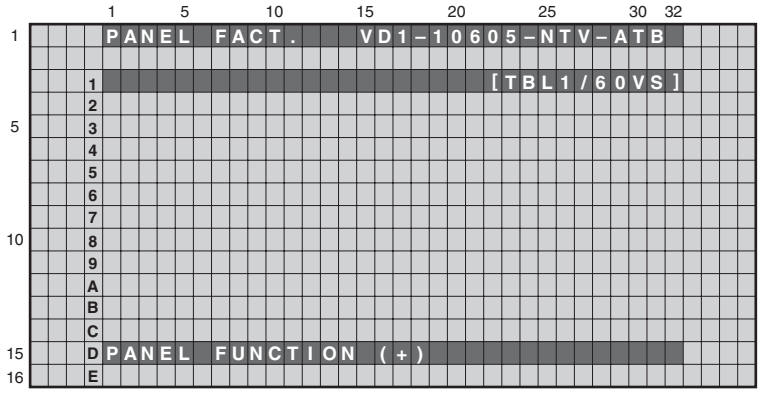
The ABL/WB adjustment values are grouped into up to four tables, depending on the drive sequences. The adjustment value for the actually driven table is displayed. The number of the adjustment table and the drive sequence currently selected are displayed on the right side of the third line as the On-Screen display.

Drive sequence and adjustment table

Sequence Name	Video50	Video60	Video72	Video75	PC60
Adjustment Value Table	TBL2	TBL1	TBL1	TBL3	TBL4

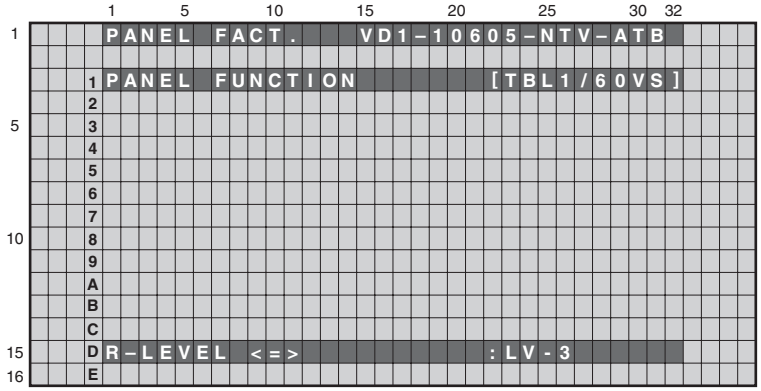
6.2.2.7 PANEL FUNCTION (+)

- A setting for panel degradation correction can be made. Pressing the ENTER/SET key shifts the screen to the next nested layer below for item selection.



■ **Key operation**

<DOWN> : Shifting to ETC.(+)
<UP> : Shifting to PANEL-2 ADJ (+)
<SET> : Shifting to the next nested layer

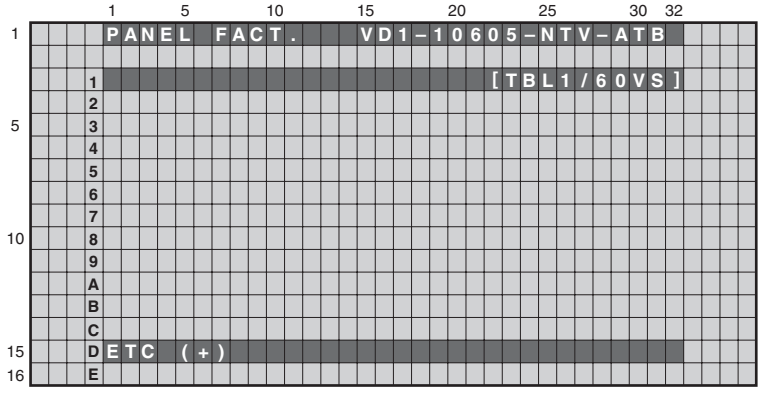


■ **Key operation**

<DOWN> : Shifting to the next item
<UP> : Shifting to the previous item
<RIGHT> : Adding by one to the adjustment/ setting value
<LEFT> : Subtracting by one from the adjustment/setting value
<SET> : Determining the adjustment/setting value and shifting to the upper layer

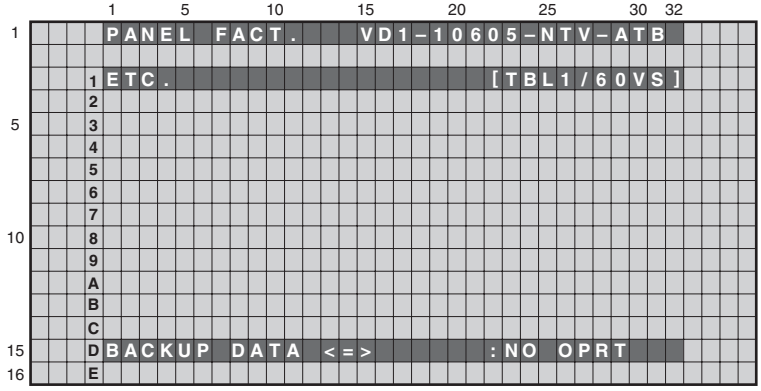
6.2.2.8 ETC. (+)

- The setting about the backup of panel adjusting value and various data on panel operational information can be cleared. Pressing the ENTER/SET key shifts the screen to the next nested layer below for item selection.



■ **Key operation**

<DOWN> : Shifting to RASTER MASK SETUP (+)
<UP> : Shifting to PANEL FUNCTION (+)
<SET> : Shifting to the next nested layer

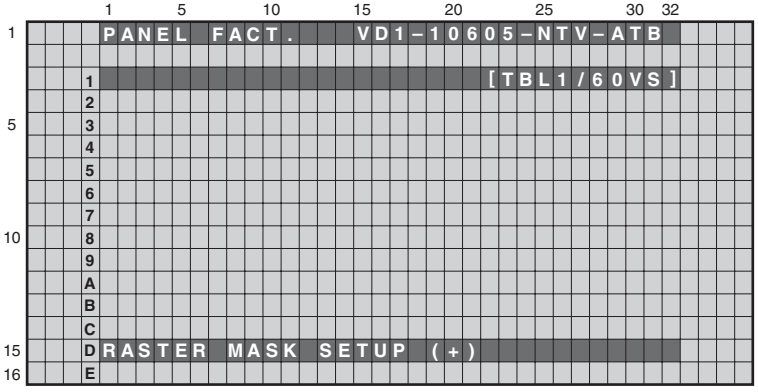


■ **Key operation**

<DOWN> : Shifting to the next item
<UP> : Shifting to the previous item
<RIGHT> : Adding by one to the adjustment/setting value
<LEFT> : Subtracting by one from the adjustment/setting value
<SET> : Determining the adjustment/setting value and shifting to the upper layer

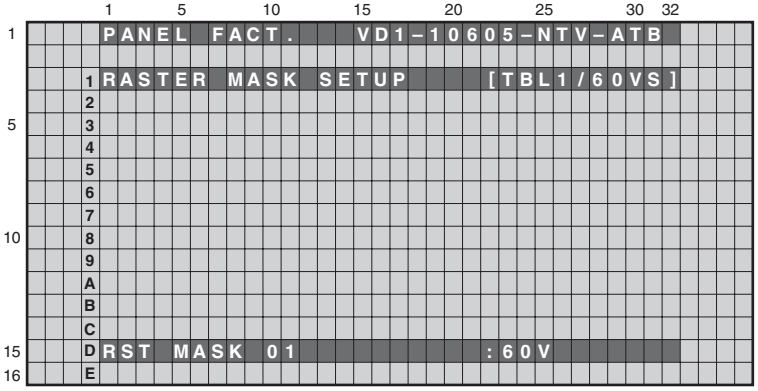
6.2.2.9 RASTER MASK SETUP (+)

- This menu set the RASTER MASK and the drive sequence at RASTER MASK state. Pressing the ENTER/SET key shifts the screen to the next nested layer below for item selection.



■ **Key operation**

<DOWN> : Shifting to PATTERN MASK SETUP (+)
<UP> : Shifting to ETC. (+)
<SET> : Shifting to the next nested layer



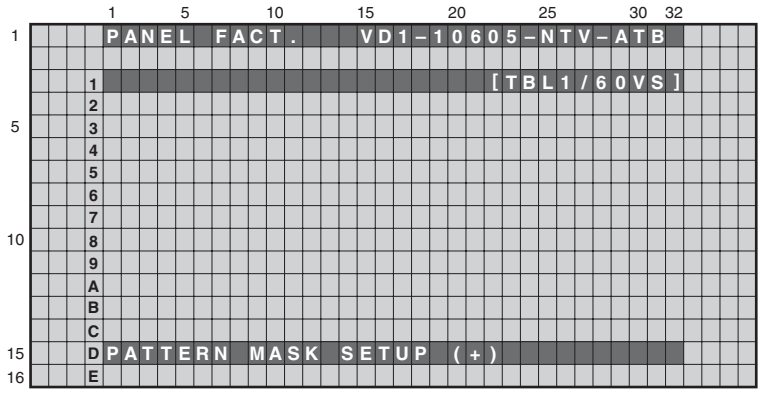
■ **Key operation**

<DOWN> : Shifting to the next MASK
<UP> : Shifting to the previous MASK
<RIGHT> : Changing MASK sequence (+)
<LEFT> : Changing MASK sequence (-)
<SET> : Determining the adjustment/setting value and shifting to the upper layer

- The MASK indication sequence can be changed among 48V, 50V, 60V, 72V, 75V and 60P using the Right or Left key. The selected sequence and the ABL/WB table are retained until the mask is turned off.

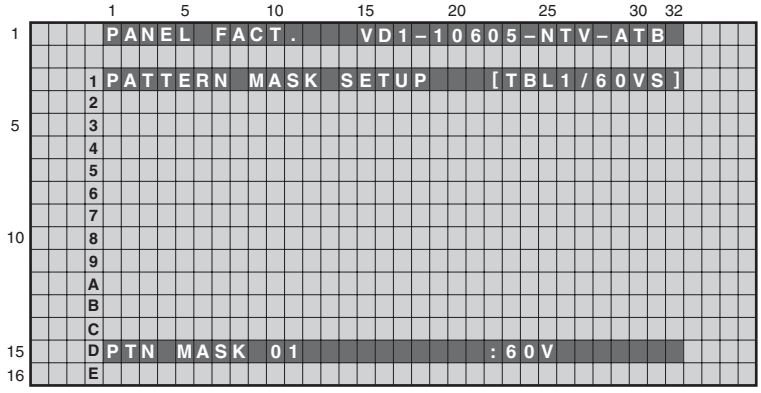
6.2.2.10 PATTERN MASK SETUP (+)

• This menu set the PATTERN MASK and the drive sequence at PATTERN MASK state. Pressing the ENTER/SET key shifts the screen to the next nested layer below for item selection.



■ **Key operation**

<DOWN> : Shifting to COMBI MASK SETUP (+)
<UP> : Shifting to RASTER MASK SETUP (+)
<SET> : Shifting to the next nested layer



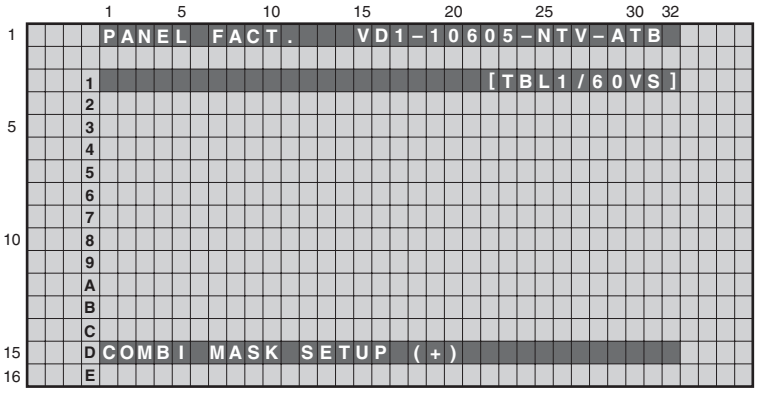
■ **Key operation**

<DOWN> : Shifting to the next MASK
<UP> : Shifting to the previous MASK
<RIGHT> : Changing MASK sequence (+)
<LEFT> : Changing MASK sequence (-)
<SET> : Determining the adjustment/setting value and shifting to the upper layer

• The MASK indication sequence can be changed among 48V, 50V, 60V, 72V, 75V and 60P using the Right or Left key. The selected sequence and the ABL/WB table are retained until the mask is turned off.

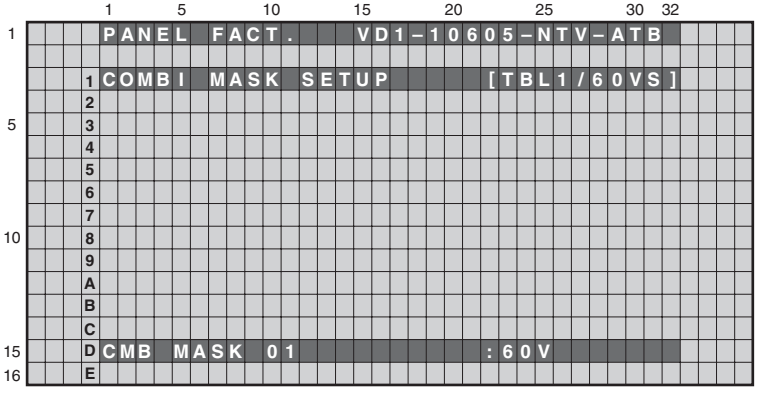
6.2.2.11 COMBI MASK SETUP (+)

• This menu set the COMBI MASK and the drive sequence at COMBI MASK state. Pressing the ENTER/SET key shifts the screen to the next nested layer below for item selection.



■ **Key operation**

<DOWN> : Shifting to PANEL INFORMATION
<UP> : Shifting to PATTERN MASK SETUP (+)
<SET> : Shifting to the next nested layer



■ **Key operation**

<DOWN> : Shifting to the next MASK
<UP> : Shifting to the previous MASK
<RIGHT> : Changing MASK sequence (+)
<LEFT> : Changing MASK sequence (-)
<SET> : Determining the adjustment/setting value and shifting to the upper layer

• The MASK indication sequence can be changed among 48V, 50V, 60V, 72V, 75V and 60P using the Right or Left key. The selected sequence and the ABL/WB table are retained until the mask is turned off.

6.2.3 OPTION

Operation item

No.	Function	Content	RS-232C
6.2.3.1	EDID WRITE MODE ⇔	DISABLE ⇔ ENABLE	----
6.2.3.2	CH PRESET ⇔	USER ⇔ FACTORY	----
6.2.3.3	SYNC DET (+)	Exclusively used for technical analysis	----

6.2.3.1 EDID WRITE MODE <=>

Exclusively used for production line.

6.2.3.2 CH PRESET <=>

Exclusively used for production line.

6.2.3.3 SYNC DET (+)

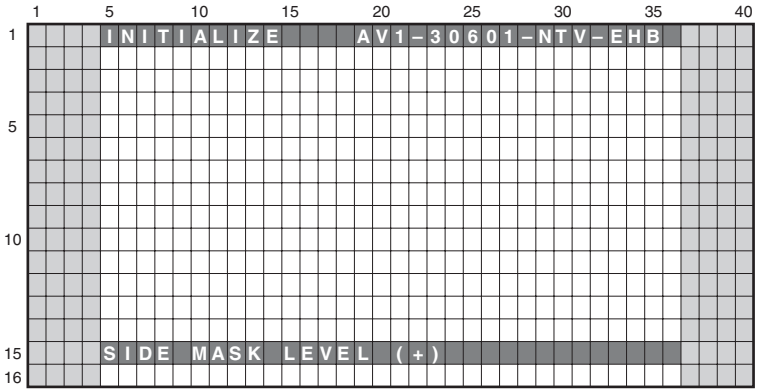
Exclusively used for technical analysis (details omitted).

6.2.4 INITIALIZE

Operation item

No.	Function	Content	RS-232C
6.2.4.1	SIDE MASK LEVEL (+)	Configure the color of the side mask.	SML
6.2.4.2	FINAL SETUP (+)	Initialize flash memorys on virgin product status	FST
6.2.4.3	Wide XGA AUTO <=>	Exclusively used for technical analsyis.	----

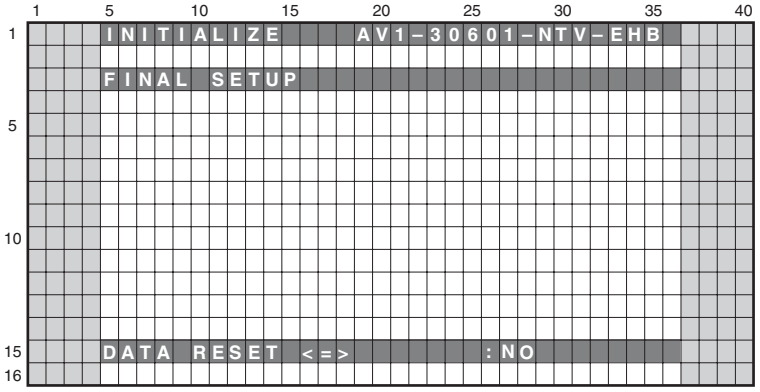
6.2.4.1 SIDE MASK LEVEL (+)



To configure sidemask level (To adjust the values, input signal is required).

Display	Content	RS-232C
SIDE MASK LEVEL <=>	Adjust Side Mask level (Adjustable range: 000 to 255)	SML

6.2.4.2 FINAL SETUP (+)



- To reset each memory values to factory default values. Factory command is "FST".
- When the configuration is set to <NO> and the [ENTER/SET] key is pressed, no action is taken and the menu returns to previous screen.
- When the configuration is set to <YES> and the [ENTER/SET] key is pressed for 5 seconds, the reset action executes.

Be sure to disconnect and connect the AC cable after FINAL SETUP.
When replacing the MAIN Assy, the FINAL SETUP is required.

To ensure proper function of the product, leave the AC cable unplugged for 1 minute or more before plugging it again.
If the AC cable is plugged back in immediately after unplugging, software for the DTV block may not start up properly.

6.2.4.3 Wide XGA AUTO <=>

Exclusively used for technical analsyis (details omitted).

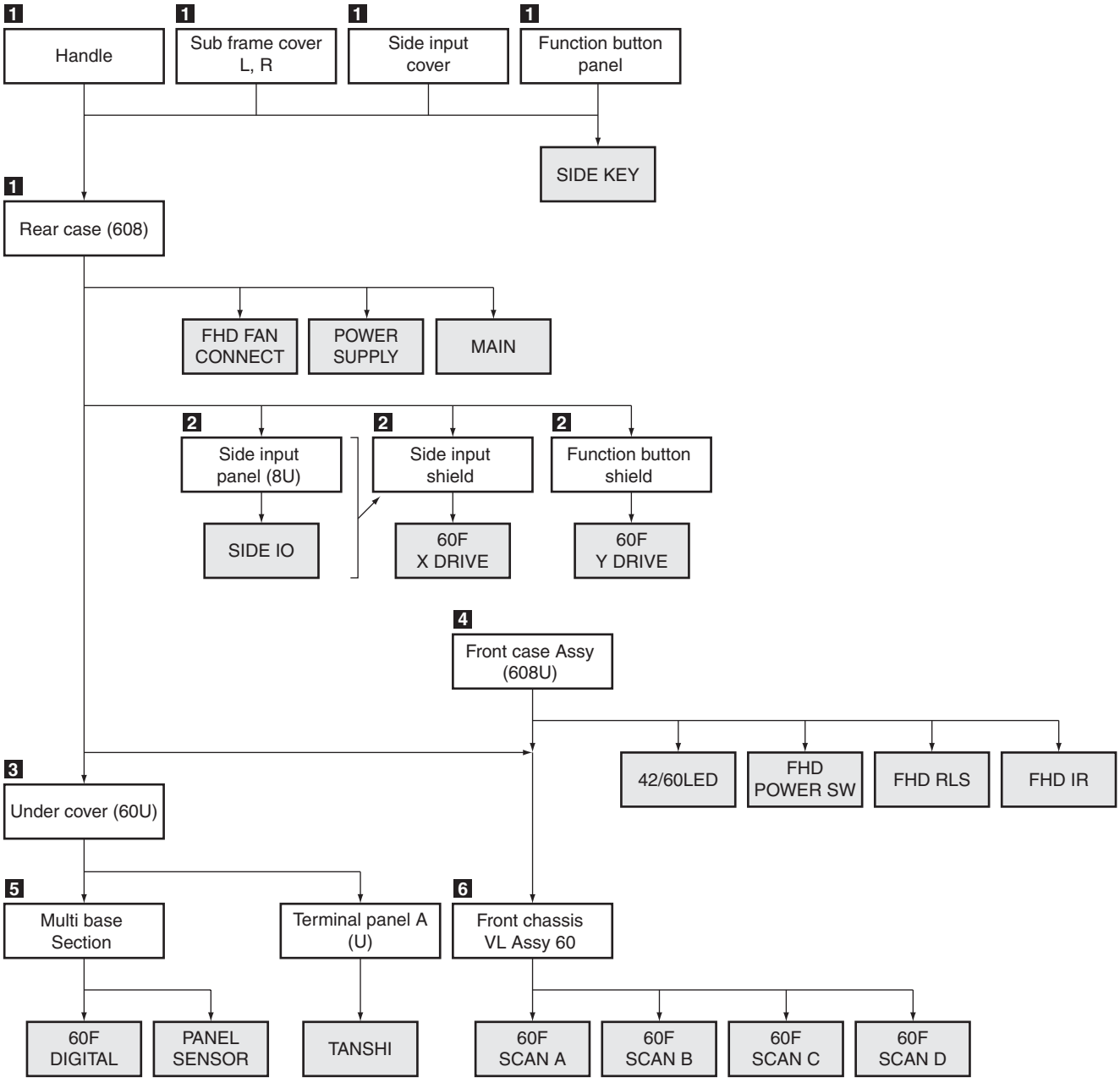
7. DISASSEMBLY

7.1 CHART OF REMOVAL ORDER FOR THE MAIN PARTS AND BOARDS

Note: Even if the unit shown in the photos and illustrations in this manual may differ from your product, the procedures described here are common.

Chart of removal order for the main parts and boards

It is efficient to proceed with removal of the main parts and boards in the order shown in the chart below:



Disassembly

1 Rear Case (608)

● **Function button panel**

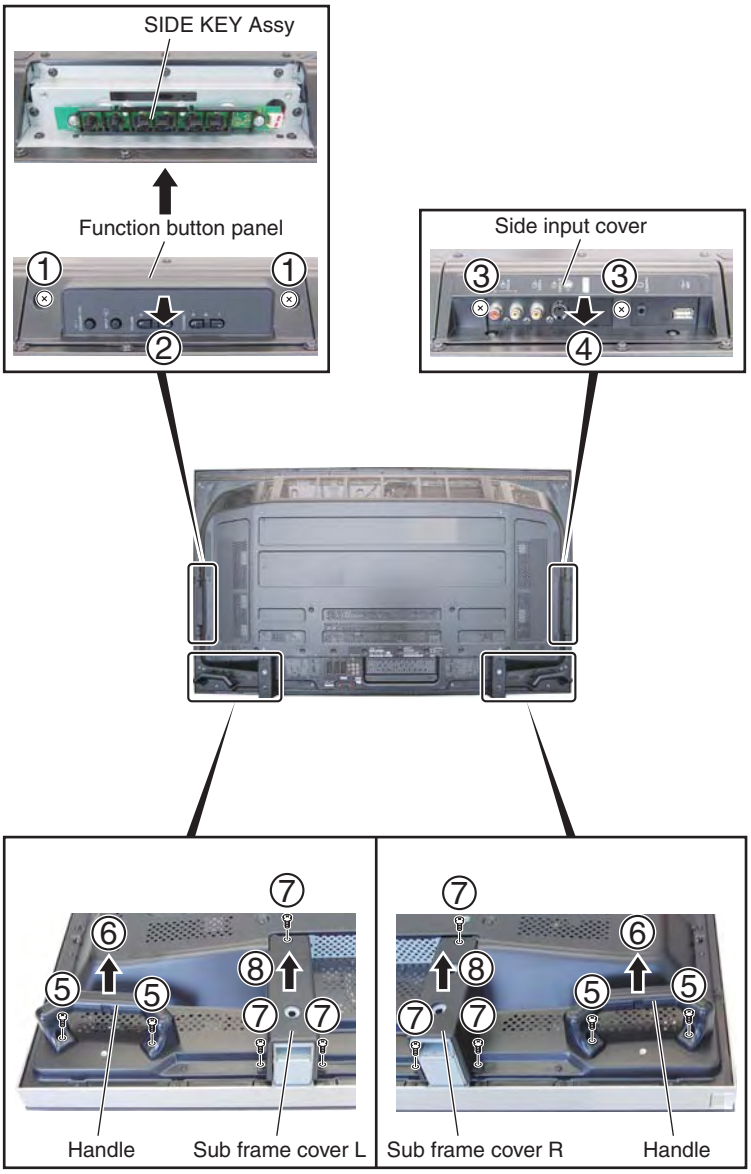
① Remove the two screws.

② Remove the function button panel.

● **Side input cover**

③ Remove the two screws.

④ Remove the side input cover.



● **Handle**

⑤ Remove the four screws.

⑥ Remove the two handles.

● **Sub frame cover L, R**

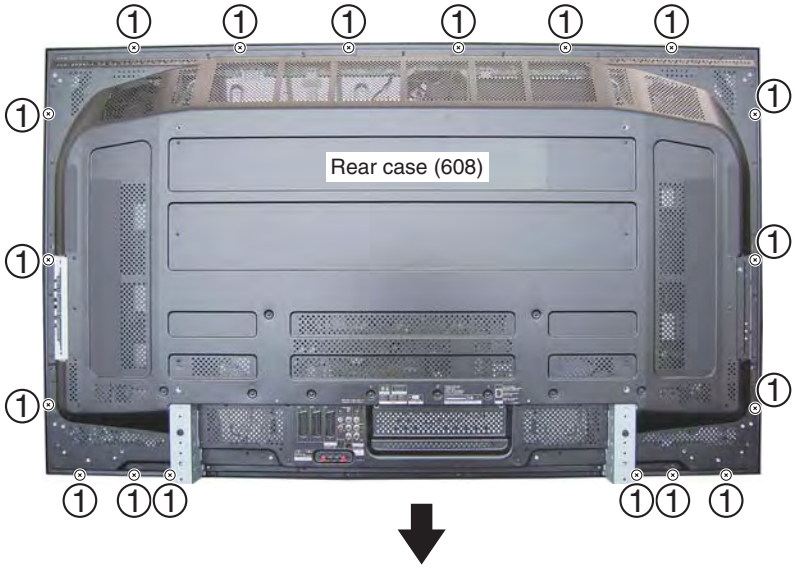
⑦ Remove the six screws.

⑧ Remove the sub frame cover L and R.

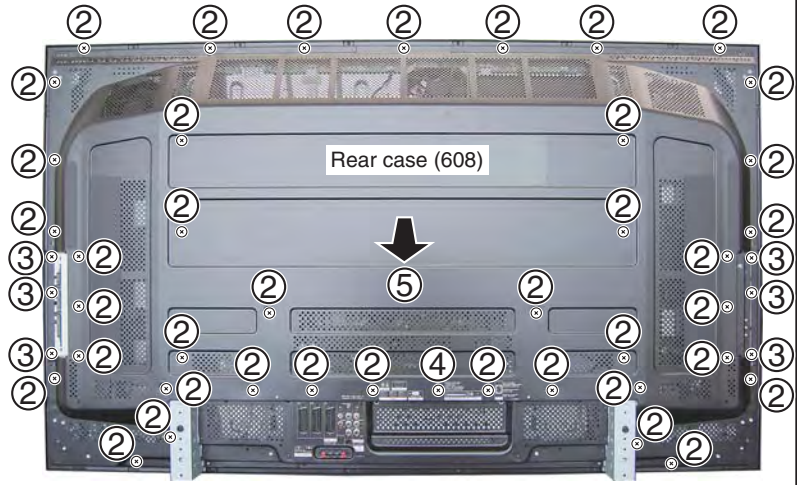
PDP-LX6080D

● Rear case (608)

① Remove the 18 screws. (APZ30P100FTB)



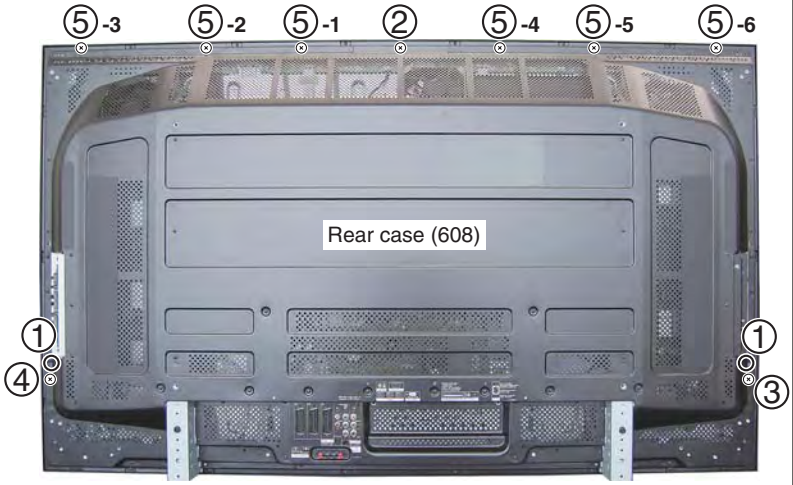
② Remove the 40 screws. (AMZ30P060FTB)
③ Remove the 6 screws. (APZ40P100FTB)
④ Remove the one screw. (ABA1341)
⑤ Remove the rear case (608).



■ Tightening sequence for the screws when assembling

When assembling the Rear case (608), tighten the screws in the following sequence:

① Check that the two bosses for positioning are inserted.
② Tighten the one screw.
③ Tighten the one screw.
④ Tighten the one screw.
⑤ Tighten the six screws.
⑥ Secure the remaining screws, center ones first then the peripheral screws, to avoid an upward shift of the central part of the rear case.



PDP-LX6080D

2 Access to PCB Assys

● SIDE IO Assy

① Remove the four screws.
② Remove the two screws.
③ Remove the three screws.
④ Remove the side input panel.

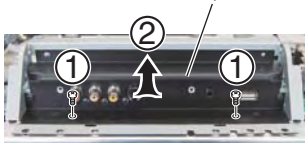
● 60F X DRIVE Assy

① Remove the two screws.
② Remove the side input shield with PCB.
③ Diagnose the 60F X DRIVE Assy.

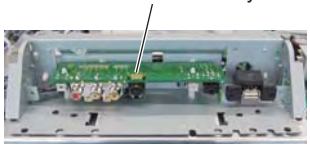
● 60F Y DRIVE Assy

① Remove the two screws.
② Remove the function button shield with PCB.
③ Diagnose the 60F Y DRIVE Assy.

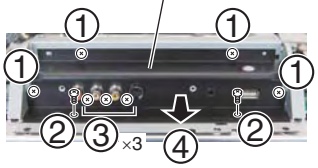
• For 60F X DRIVE Assy



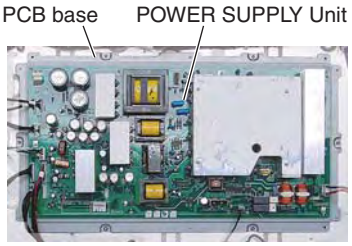
• For SIDE IO Assy

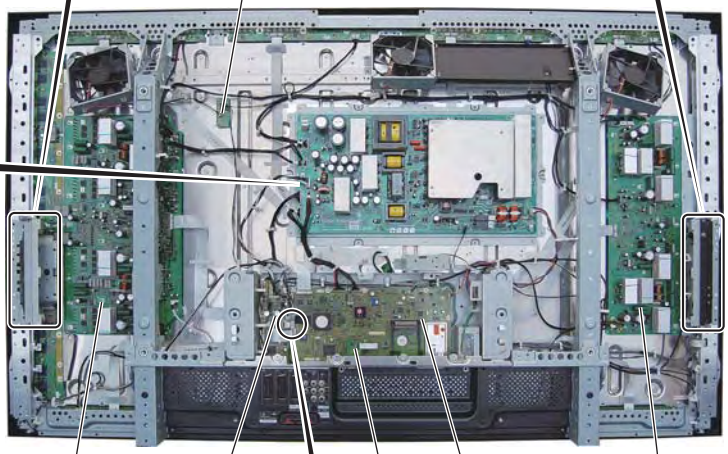


• For 60F Y DRIVE Assy



Note:
When removing the POWER SUPPLY Unit, be sure to remove not only the POWER SUPPLY Unit but entire PCB base.



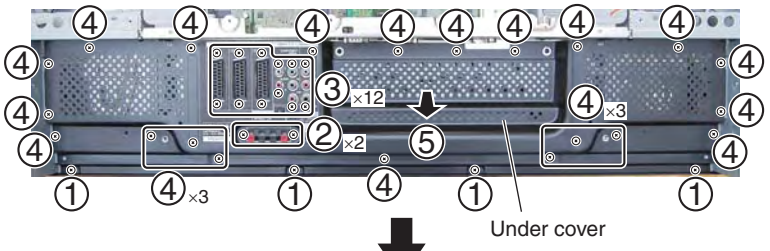


■ How to remove the bridge connector connecting between the MAIN and TANSHI Assys

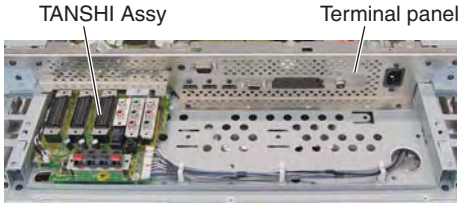
(1) Grip the two short edges of the connector with longnose pliers.
(2) Insert a finger between the longnose pliers and the board to protect the board and the mounted parts on the board from accidental damage by the pliers then, using your finger as a fulcrum and the pliers as a lever, pry the connector upward to remove it.

3 Under Cover

① Remove the four screws.
② Remove the two screws.
③ Remove the 12 screws.
④ Remove the 21 screws.
⑤ Remove the under cover.



Note:
The wiring shown in the photo is different from the actual wiring, because the product in the photo is a prototype.
Upon servicing, be sure to restore the original wiring of the unit after repair work.



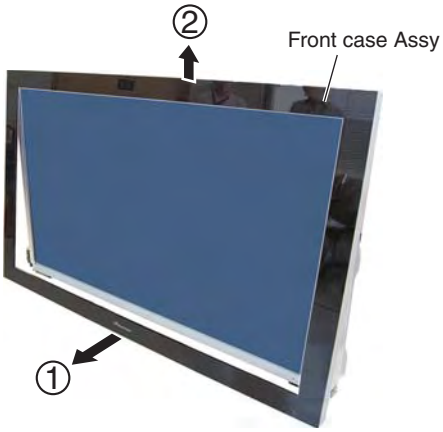
■ Tightening sequence for the screws when assembling

When assembling the under cover, tighten the screws in the following sequence:

① Check that the two bosses for positioning are inserted.
② Tighten the two screws.
③ Tighten other screws.

4 Front Case Assy

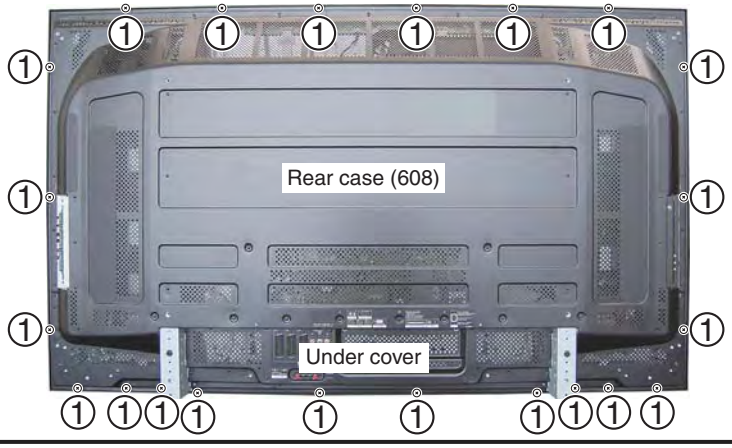
① Pull the lower part of the Front case Assy toward you and out.
② Remove the Front case Assy, by pulling it upward.



■ Removal of only the Front Case Assy

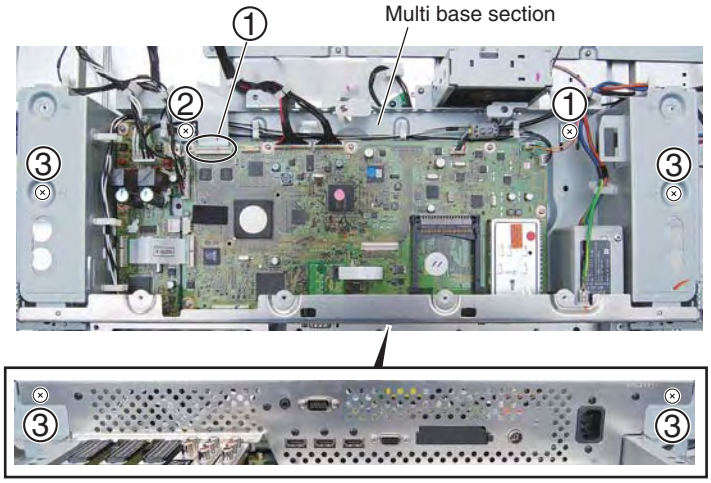
If only the front case Assy must be removed, follow the procedure below:

① Remove the 22 screws.



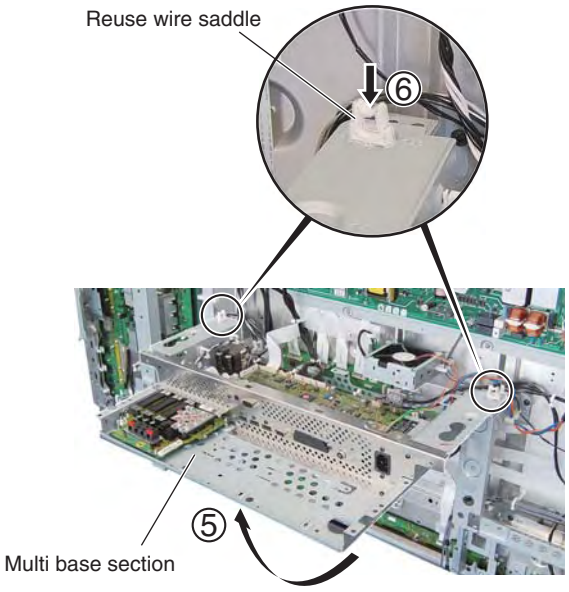
5 Access to 60F DIGITAL Assy

① Disconnect the cable.
② Remove the two screws.
③ Remove the four screws.



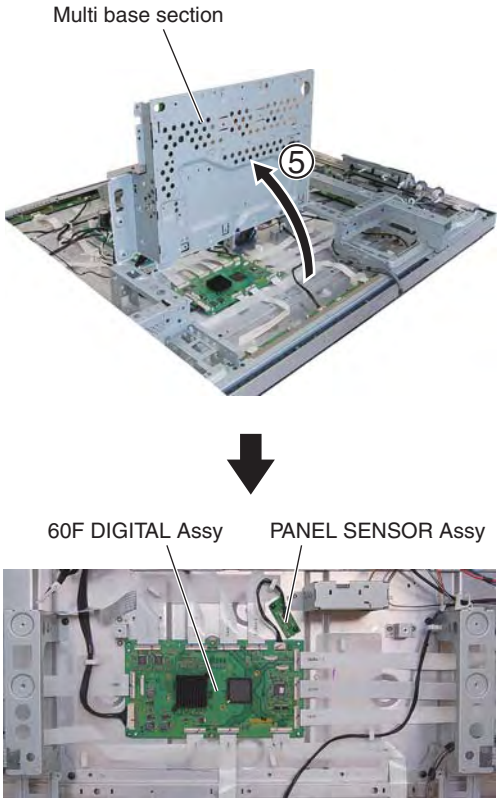
Diagnosis

④ Disconnect cables, connectors, as required.
⑤ Lift the Multi base section to the direction of the arrow.
⑥ Fix the multi base section to the product with two reuse wire saddles.



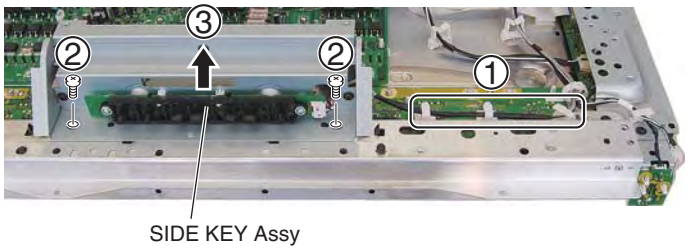
Exchange

④ Disconnect cables, connectors, as required.
⑤ Lift the Multi base section to the direction of the arrow.

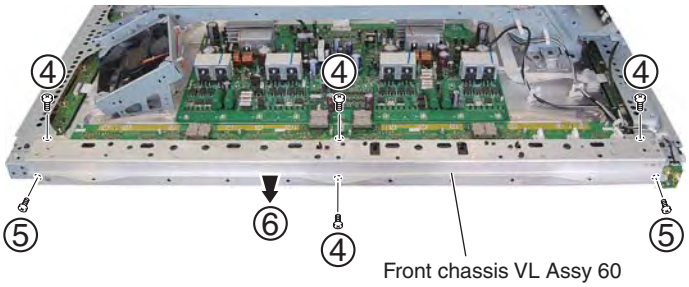


6 Exchange of SCAN IC

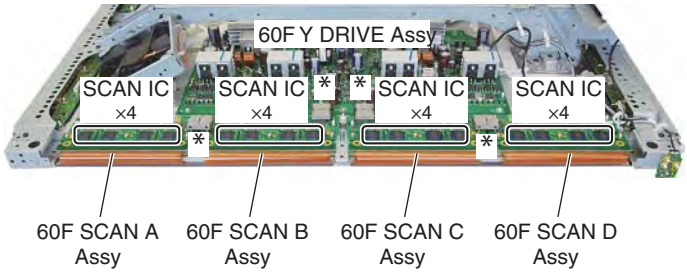
① Release the jumper wire.
② Remove the two screws.
③ Remove the side key section.



④ Remove the four screws.
⑤ Remove the two screws.
⑥ Remove the front chassis VL Assy 60.



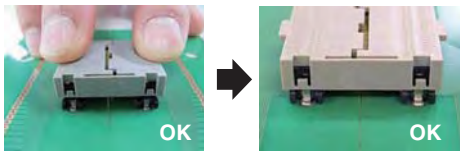
Exchange



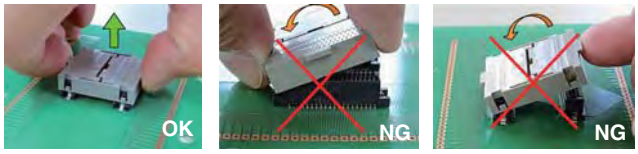
Notes for Three pieces connector 40P*

Three pieces connector 40P is a precision part. Pay attention to the handling.

Connecting Method



Disconnecting Method



In addition, please do not touch the electrode plane.

8. EACH SETTING AND ADJUSTMENT

1. At shipment, the unit is adjusted to its best conditions. Normally, it is not necessary to readjust even if an assembly is replaced. If the adjustment is shifted or if it becomes necessary to readjust because of part replacement, etc., perform the adjustment as described below.
2. Any value changed in Service/Factory mode will be stored in memory as soon as it is changed. Before readjustment, take note of the original values for reference in case you need to restore the original settings.
3. Use a stable AC power supply.

8.1 ADJUSTMENT REQUIRED WHEN THE UNIT IS REPAIRED OR REPLACED

■ When any of the following assemblies is replaced

POWER SUPPLY Unit	➡	Refer to “8.3 HOW TO CLEAR HISTORY DATA”.
DIGITAL Assy	➡	Writing of backup data is required. Refer to the “8.2 BACKUP OF THE EEPROM (DIGITAL ASSY)”.
X DRIVE Assy	➡	No adjustment required
Y DRIVE Assy	➡	No adjustment required
Service Panel Assy	➡	Refer to “8.3 HOW TO CLEAR HISTORY DATA” and “8.4 ADJUSTMENTS WHEN THE SERVICE PANEL ASSY IS REPLACED”.
MAIN Assy (*)	➡	No adjustment required
PANEL SENSOR Assy	➡	Writing of backup data is required. Refer to the “8.2 BACKUP OF THE EEPROM (DIGITAL ASSY)”.
Other assemblies	➡	No adjustment required

(*) : When replacing the MAIN Assy, be sure to perform the FINAL SETUP.

Notes on replacing parts

For the parts described in the list below, replacement is required for the whole Assy, not only the defective part.
If any part listed below is identified as defective and needs replacement, replace the whole Assy, and make necessary adjustments after replacement.

Reason: The whole Assy must be replaced, because adjustments and data rewriting for the Assy at the level of production line are required.

PCB Assy No.	Assy Name	Parts that Require Whole-Assy Replacement		
		Ref No.	Function Name	Part No.
AWV2464	MAIN Assy	IC4601	AV switch	R2S11006FT
		IC4701	RGB switch	R2S11001FT
		IC4703	EEPROM	BR24L01AFJ-W
		IC4801	MAIN VDEC	CM0048BF
		IC5001	A/D Converter	AD9985KSTZ-110
		IC5102	EEPROM	BR24L02FV-W
		IC5103	EEPROM	BR24L02FV-W
		IC5203	EEPROM	BR24L02FV-W
		IC8204	Flash ROM	AGC1054
		IC8301	Flash UCOM	AGC1037
		IC8602	Flash ROM	AGC1045
		IC8604	Flash ROM	AGC1046
AWV2505	60F X DRIVE Assy	• Parts of X D-D CON BLOCK		
AWV2506	60F Y DRIVE Assy	• Parts of Y MAIN D-D CON BLOCK 1 • Parts of Y MAIN D-D CON BLOCK 2		

POWER SUPPLY Unit	➡	The assembly must be replaced as a unit, and no part replacement is allowed.
MAIN Assy	➡	No adjustment is required after replacement of parts other than those mentioned above.
DIGITAL Assy	➡	No adjustment is required after replacement of parts other than those mentioned above.
X DRIVE Assy	➡	No adjustment is required after replacement of parts other than those shown in “8.5 ADJUSTMENTS WHEN THE DRIVE ASSYS ARE REPLACED.
Y DRIVE Assy	➡	No adjustment is required after replacement of parts other than those shown in “8.5 ADJUSTMENTS WHEN THE DRIVE ASSYS ARE REPLACED.
ADDRESS Assy	➡	No adjustment required
PANEL SENSOR Assy	➡	No adjustment is required after replacement of parts other than those mentioned above.
TANSHI Assy	➡	No adjustment required

8.2 BACKUP OF THE EEPROM (DIGITAL ASSY)

■ Outline

Adjustment data are stored in the EEPROM on the DIGITAL Assy in the production process. Those adjustment data are also automatically stored in the EEPROM (for backup) on the PANEL SENSOR Assy.
If the DIGITAL Assy is replaced, those adjustment data for backup can be copied from the EEPROM on the PANEL SENSOR Assy to a new DIGITAL Assy.

■ Backed up data

- Drive voltage adjustment value
- Hour-meter count
- Pulse-meter count
- Panel white balance adjustment value
- Serial No.
- Drive waveform adjustment value
- P-ON counter value
- PD/SD histories

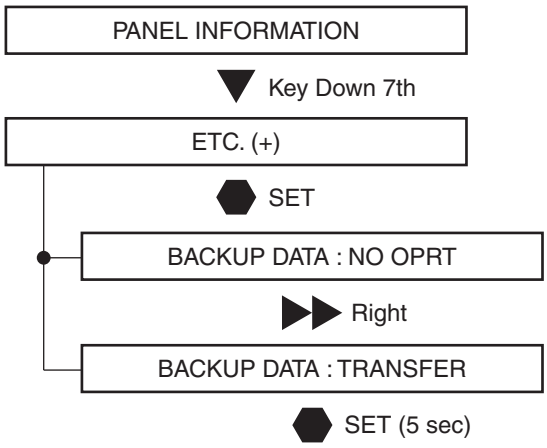
■ How to copy backup data

1. When the DIGITAL Assy is replaced with one for service (usual service)

Adjustment data can be restored by copying the data backed up in the PANEL SENSOR Assy to the EEPROM on a new DIGITAL Assy.
The EEPROM on the new DIGITAL Assy has no adjustment data, and the EEPROM for backup in the PANEL SENSOR Assy has adjustment data. After replacing the DIGITAL Assy, enter PANEL FACT. mode, display the PANEL INFORMATION page, then check if "NO DATA!" is set for "DIG. EEP" and "ADJUSTED" is set for "BACKUP". Then, proceed in the following steps:

(1) Copying, using the Factory menu

① Plug in the AC cord, press the Power switch on the unit to set it to ON, then enter Standby mode.
② Turn on the power, using the remote control unit, then enter Panel Factory mode.
Copy the backup data, as shown in the figure below.



③ Turn the power off.

- After the DIGITAL Assy is replaced with one for service, be sure to check if "NO DATA!" is set for "DIG. EEP" on the PANEL INFORMATION page of the PANEL FACT. mode.
- If copying of the backup data fails in the above procedure, the red LED lights, and the blue LED flashes, as a warning that no backup data were copied.
- If both the DIGITAL and PANEL SENSOR Assys are to be replaced, first replace the PANEL SENSOR Assy, turn the unit on and back off again, then replace the DIGITAL Assy.

(2) Copying, using the RS-232C commands

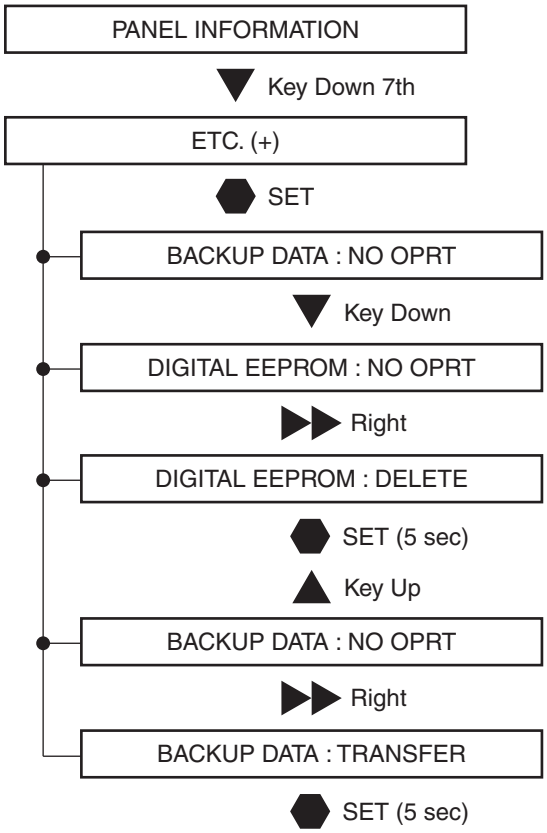
① Turn on the unit, using the remote control unit or by issuing the PON command. Then issue the FAY command.
② Issue the BCP command to transfer the data stored in the EEPROM for backup.
③ Turn the power off.

2. When a secondhand DIGITAL Assy that had been mounted in another product is to be reused

As adjustment data for another product are already stored in the secondhand DIGITAL Assy, first delete those data then copy the backup data stored in the EEPROM on the PANEL SENSOR Assy.

(1) Copying, using the Factory menu

① Plug in the AC cord, press the Power switch on the unit to set it to ON, then enter Standby mode.
② Turn on the power, using the remote control unit, then enter Panel Factory mode.
Copy the backup data, as shown in the figure below.



③ Turn the power off.

Note:
If the secondhand DIGITAL Assy is mounted in the product then the unit is turned on then back off again, the data in the EEPROM on the DIGITAL Assy are copied over the EEPROM in the PANEL SENSOR Assy. Thus the backup data can never be restored. During the first power-on after the DIGITAL Assy is replaced, be sure to enter Factory mode to copy the backup data. Or, before removing the secondhand DIGITAL Assy from the original product, delete the adjustment data on it, using the Factory mode (DIGITAL EEPROM: DELETE), mount it to the product to be repaired, then copy the data from the backup EEPROM.

(2) Copying, using the RS-232C commands

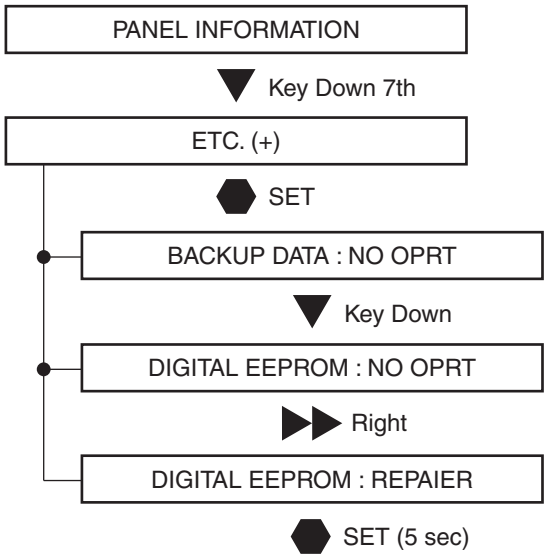
① Turn on the unit, using the remote control unit or by issuing the PON command. Then issue the FAY command.
② Issue the UAJ command to delete data stored in the EEPROM on the DIGITAL Assy.
③ Issue the BCP command to transfer the data stored in the EEPROM for backup.
④ Turn the power off.

3. In a case where normal backup data are not stored in the backup EEPROM because the EEPROM on the DIGITAL Assy is defective, etc., and where manually adjusted values are to be applied to the product

Note: In this section, it is assumed that settings for various items have been completed, using Factory menu or RS-232C commands.

(1) Method using the Factory menu

① Set various setting/adjustment values.
② Proceed in the following steps.



③ Turn the power off.

Note:
When a DIGITAL Assy with an EEPROM in which adjustment data are stored is mounted, this step is not required after manual adjustment. ("DIGITAL EEPROM: REPAIR" is not indicated.)

(2) Method using the RS-232C commands

Issue the FAJ command.

8.3 HOW TO CLEAR HISTORY DATA

■ Clearance of various logs after the Assys are replaced

Besides adjustment data, data on accumulated power-on time and logs on defective parts of the product are backed up. Some of those data must be cleared after the Assys are replaced for service.

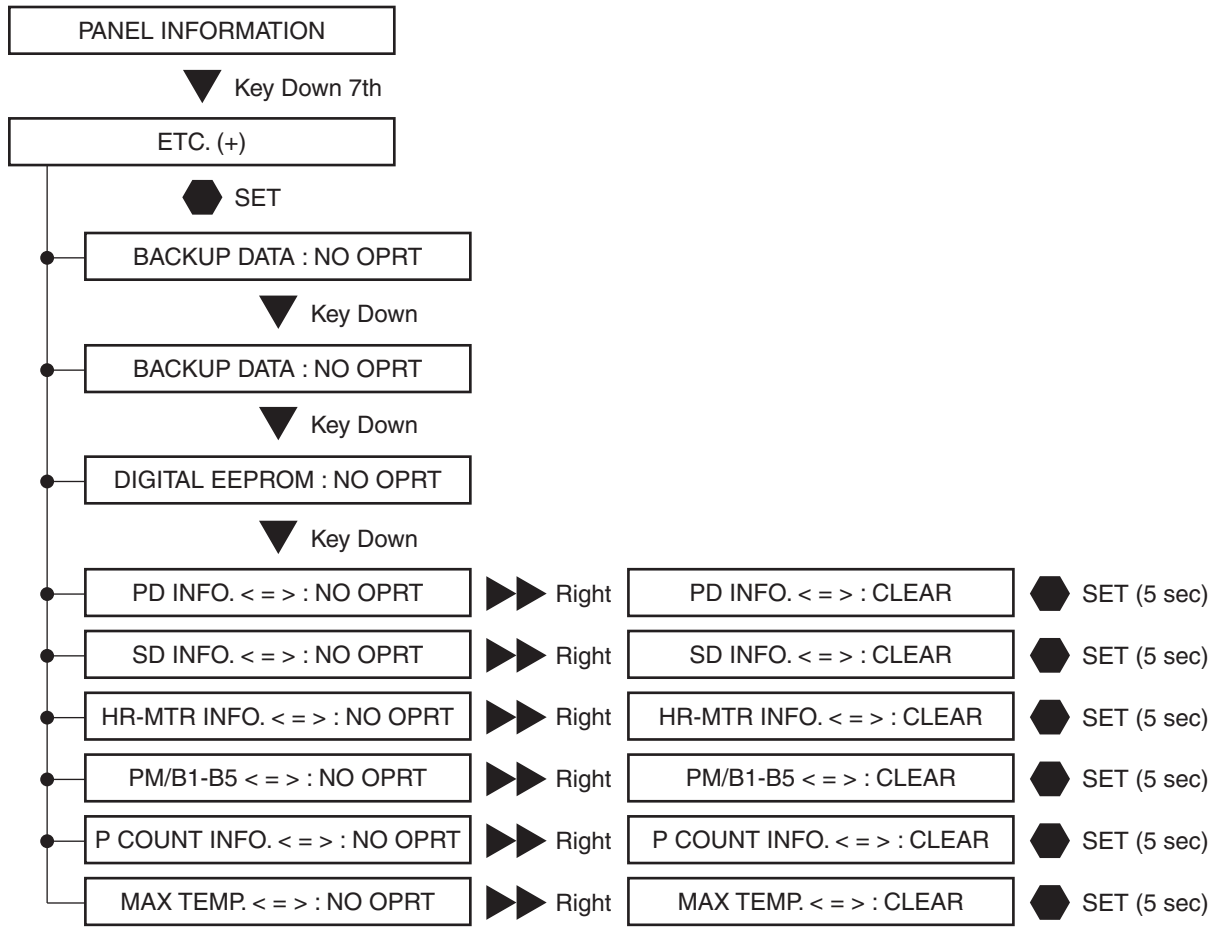
(1) Clearance of logs, using the RS-232C commands

Item	Content	When the Panel is replaced	When the POWER SUPPLY Unit is replaced	When the Other parts is replaced	RS-232C Commands
Hour-meter	Accumulated power-on time	Must be cleared	No need to be cleared	No need to be cleared	CHM
Pulse-meter	Accumulated number of pulses emitted	Must be cleared (mandatory)	No need to be cleared	No need to be cleared	CPM
Shutdown history	Cause of an SD and hour-meter count	Must be cleared	No need to be cleared	No need to be cleared	CSD
Power-down history	Cause of an PD and hour-meter count	Must be cleared	No need to be cleared	No need to be cleared	CPD
Power-on counter	Relay-on count	No need to be cleared	Must be cleared (mandatory)	No need to be cleared	CPC
MAX TEMP	Historical max. temperature	Must be cleared	Must be cleared	Must be cleared	CMT

Notes: • As the pulse-meter count is used for each correction function, it must be cleared when an Assy relevant to correction functions is replaced.
• When clearing logs, using the RS-232C commands, first enter Factory mode (by issuing FAY or PFY), then issue the corresponding command.

(2) Clearance of logs, using the Factory menu

① Plug in the AC cord, press the Power switch on the unit to set it to ON, then enter Standby mode.
② Turn on the power, using the remote control unit, then enter Panel Factory mode.
Delete various logs, as shown in the figure below.



③ Turn the power off.

8.4 ADJUSTMENT WHEN THE SERVICE PANEL ASSY IS REPLACED

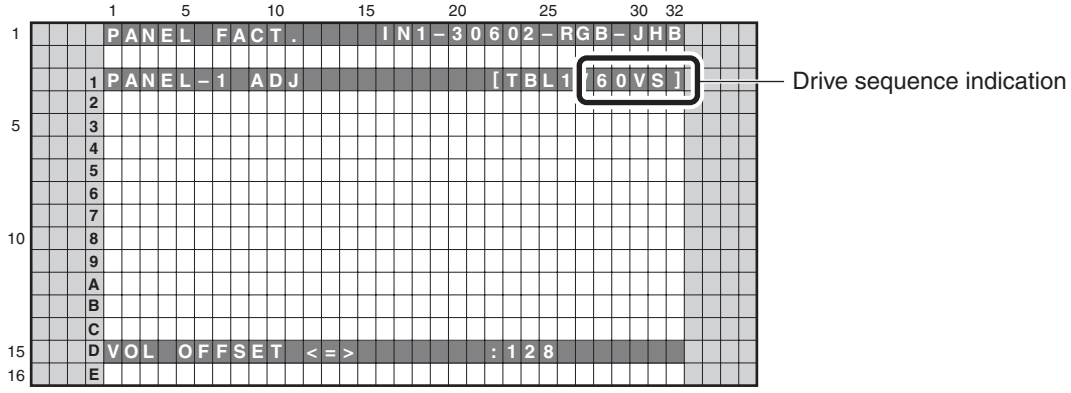
After the panel is replaced with one for service, voltage margin adjustment is required.

[Preparation]

Basically, voltage margin adjustment is performed using the Panel Factory menu.
After the panel is replaced and the unit is turned on, clear the pulse meter first.
For details on how to clear the pulse meter, see "8.3 HOW TO CLEAR HISTORY DATA".

∗1: As various corrections are made referring to the pulse-meter count to calculate how long the panel has been used, if adjustment of the panel for service is performed without clearing the pulse-meter count, proper adjustments will not be performed.

∗2: The drive sequence for 60-Hz video is used for adjustment. When adjustment is made using the Panel Factory menu, the current drive sequence is displayed on the screen, as shown in the figure below. Make sure that 60VS is always indicated during adjustment.



Example of the On-Screen display during Panel Factory mode

[Supplement]

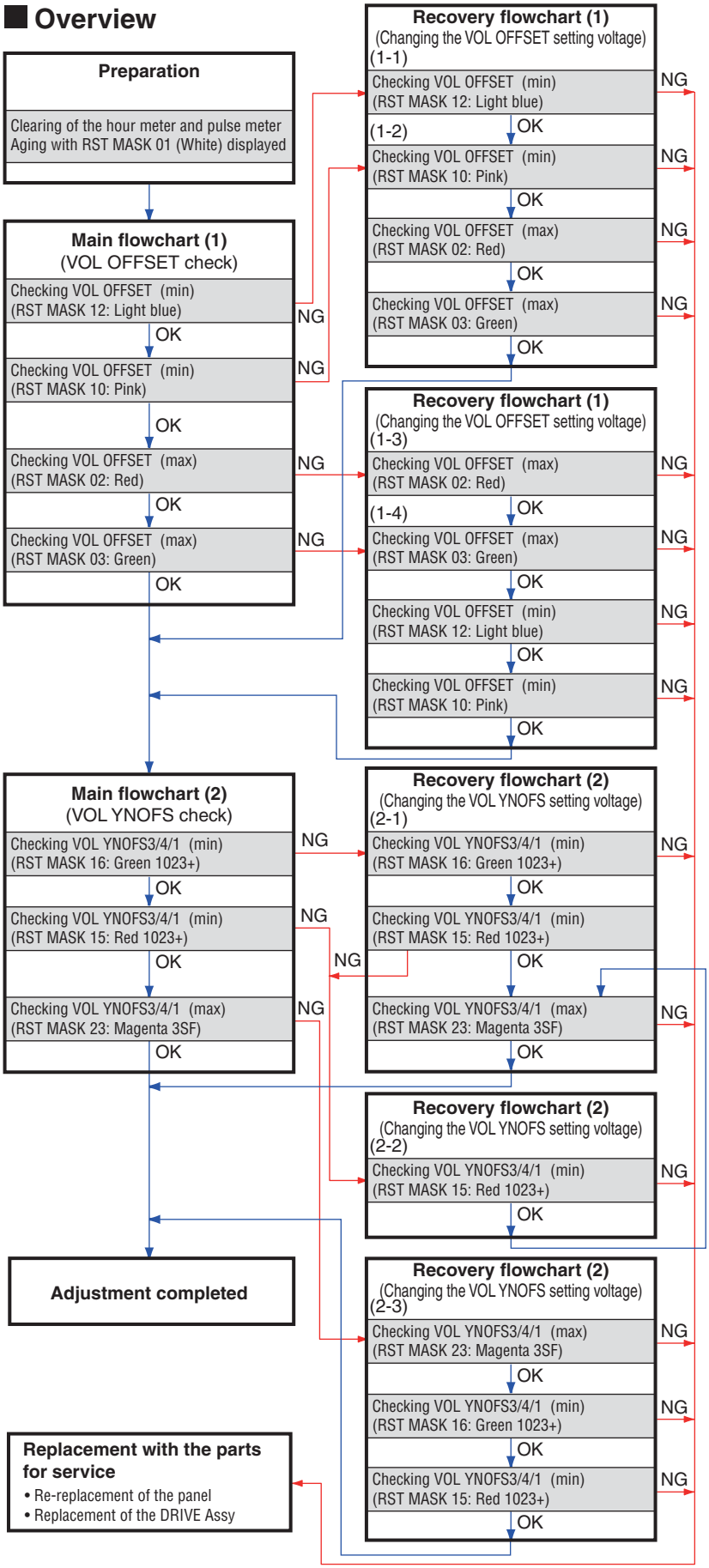
In the "PANEL-1ADJ" layer, the Panel White Balance value is reset to default, Panel Gamma is set to Straight, Noise is set to OFF, LUT mode is set to ON and Reset active control is set to OFF.
In this case, "- - - - /****" (**** represents the current drive sequence) is displayed on the third line of the On-Screen display during Panel Factory mode.

If adjustment is performed using RS-232C commands, the following commands must be transmitted for preparation:

[PAV S00] : To set panel drive mode to Factory
[VFQ S03] : To set Drive Sequence to Video 60-Hz
[WBI S01] : To temporarily reset the Panel WB adjustment value to default (WBI S00 cancels this setting.)
[PGR S00] : To set the gamma R value to that for Factory mode
[PGG S00] : To set the gamma G value to that for Factory mode
[PGB S00] : To set the gamma B value to that for Factory mode
[DIZ S03] : Dither ON, L dither ON, noise OFF.
[$1800000001] : LUT mode ON
[$1000003F00] : Reset active control OFF.

∗: If the unit is shut down during the above adjustment flow, resend the above commands from the beginning.

Overview

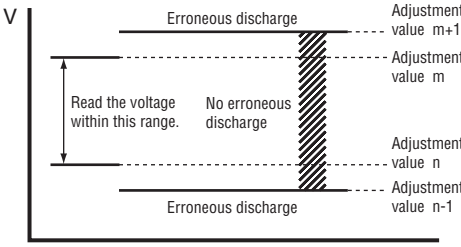


Note on voltage calculation

When calculating the setting voltage, round off to get rid of the fractional part.

Range of margin measuring

Read the voltage within the hysteresis (stricter value).



Definition of limits for the voltage margins (abnormal lit/dead cells)

Abnormal lit cells:

- Five or fewer abnormal cells on the whole screen
- Two or fewer abnormal cells within a radius of 1 cm

Abnormal dead cells

- Fifteen or fewer abnormal cells on the whole screen
- Two or fewer abnormal cells within a radius of 1 cm

∗: Abnormal cells visually recognizable at a distance of 1 meter from the panel must be counted.
∗: Cells displayed abnormally for less than one second are not counted as abnormal cells.

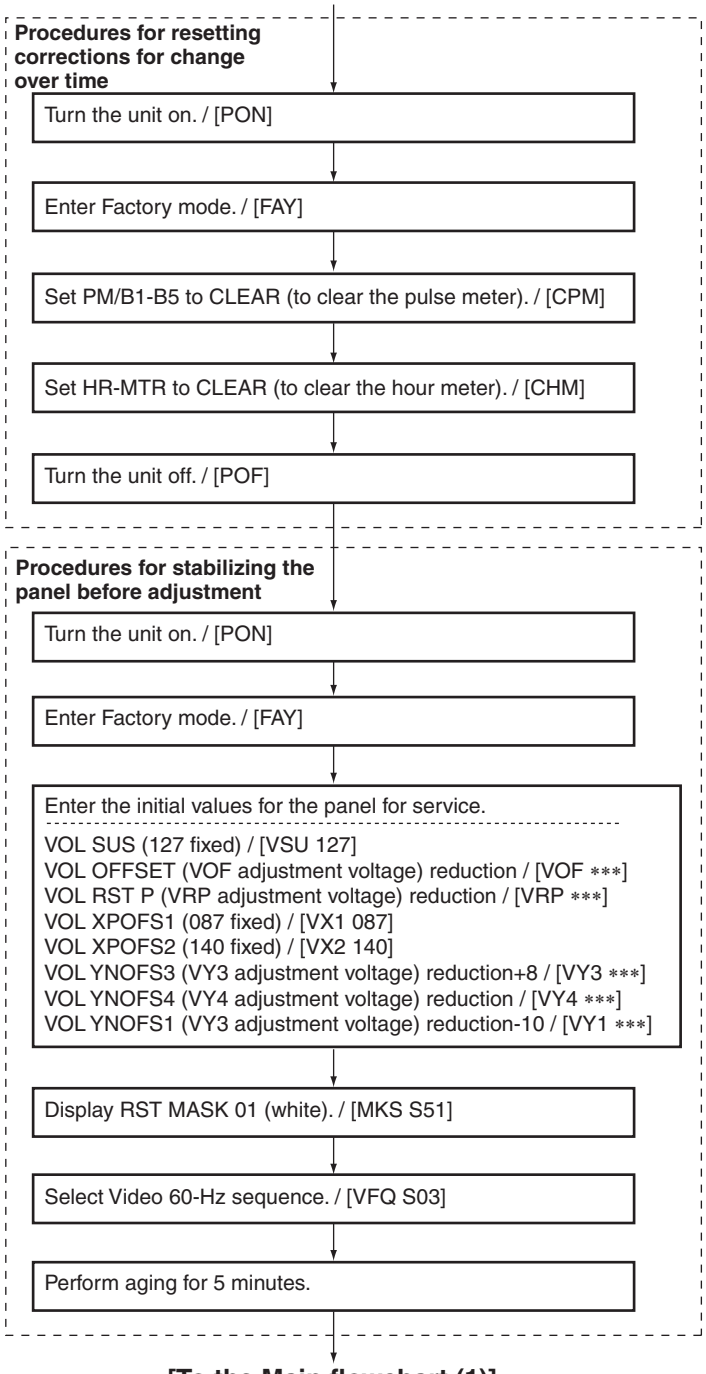
Definition of tones for the measuring signals

FHD signal (1920*1080)/Video 60-Hz sequence /Dither: ON, L dither: ON, noise: OFF

White	RST MASK 01 (R 1023 /G 1023 /B 1023)
Red	RST MASK 02 (R 1023 /G 0 /B 0)
Green	RST MASK 03 (R 0 /G 1023 /B 0)
Pink	RST MASK 10 (R 908 /G 718 /B 908)
Light blue	RST MASK 12 (R 447 /G 812 /B 812)
Red 1023+	RST MASK 15 (R 1023 /G 120 /B 120)
Green 1023+	RST MASK 16 (R 120 /G 1023 /B 120)
Magenta 3SF	RST MASK 23 (R 169 /G 0 /B 169)

Preparation before adjustment

[Replacement with the panel for service is completed.]


Procedures for resetting corrections for change over time
Turn the unit on. / [PON]
Enter Factory mode. / [FAY]
Set PM/B1-B5 to CLEAR (to clear the pulse meter). / [CPM]
Set HR-MTR to CLEAR (to clear the hour meter). / [CHM]
Turn the unit off. / [POF]
Procedures for stabilizing the panel before adjustment
Turn the unit on. / [PON]
Enter Factory mode. / [FAY]
Enter the initial values for the panel for service.
VOL SUS (127 fixed) / [VSU 127]
VOL OFFSET (VOF adjustment voltage) reduction / [VOF ***]
VOL RST P (VRP adjustment voltage) reduction / [VRP ***]
VOL XPOFS1 (087 fixed) / [VX1 087]
VOL XPOFS2 (140 fixed) / [VX2 140]
VOL YNOFS3 (VY3 adjustment voltage) reduction+8 / [VY3 ***]
VOL YNOFS4 (VY4 adjustment voltage) reduction / [VY4 ***]
VOL YNOFS1 (VY3 adjustment voltage) reduction-10 / [VY1 ***]
Display RST MASK 01 (white). / [MKS S51]
Select Video 60-Hz sequence. / [VFQ S03]
Perform aging for 5 minutes.

Indication example of the adjustment label of service panel

AWV9999- **VOF=35V**
VRP=175V VY3=190+α V VY4=209
Hour Meter_ _ _ _ _ _ _ _ _ _ _ _**H**
Data 07/05/24 Chassis CXX99999
Time 18:27 Pnl FTEST123456

Note: α V sets adjustment value to 8.

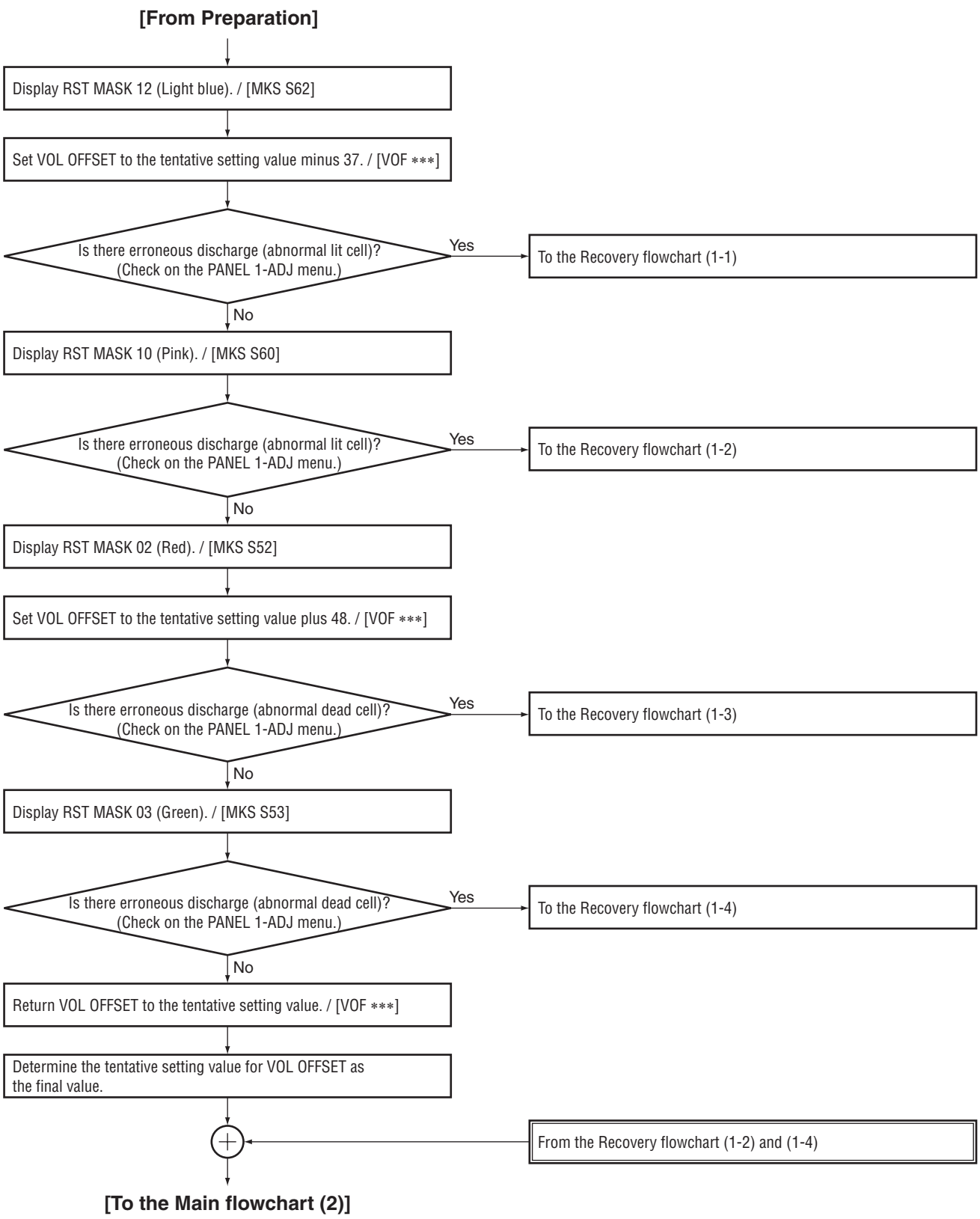
* To store the [VFQ S03] command in memory, transmit it after displaying the mask.

[To the Main flowchart (1)]

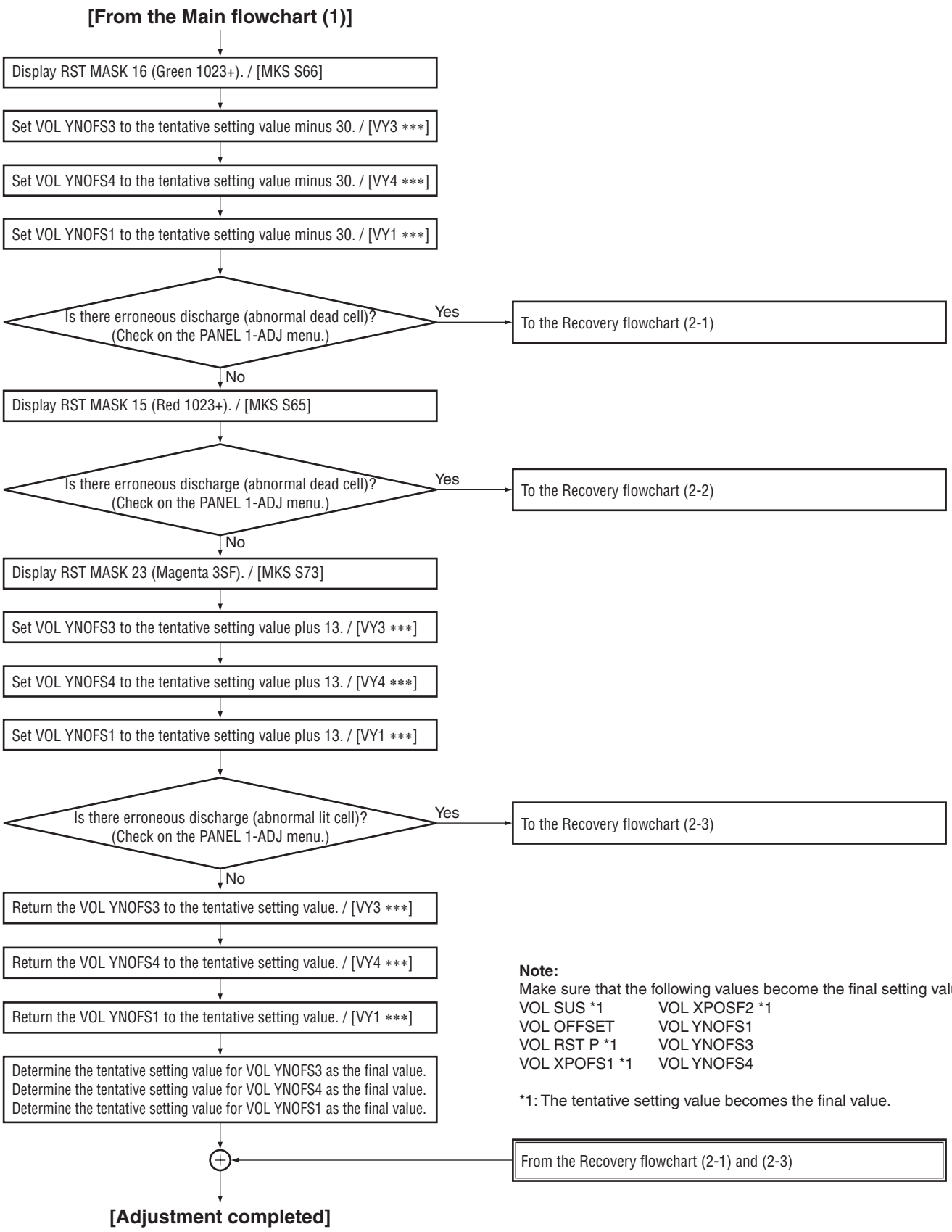
Note: If you perform the adjustment by RS-232C commands, the following commands must be added before going to the main flowchart (1):

[PAV S00] : To set panel drive mode to Factory
[VFQ S03] : To set Drive Sequence to Video 60-Hz
[WBI S01] : To temporarily reset the Panel WB adjustment value to default (WBI S00 cancels this setting.)
[PGR S00] : To set the gamma R value to that for Factory mode
[PGG S00] : To set the gamma G value to that for Factory mode
[PGB S00] : To set the gamma B value to that for Factory mode
[DIZ S03] : Dither ON, L dither ON, noise OFF.
[$1800000001] : LUT mode ON
[$1000003F00] : Reset active control OFF.

■ Main flowchart (1)...Checking VOL OFFSET


[From Preparation]
Display RST MASK 12 (Light blue). / [MKS S62]
Set VOL OFFSET to the tentative setting value minus 37. / [VOF ***]
Is there erroneous discharge (abnormal lit cell)? (Check on the PANEL 1-ADJ menu.)
Yes
To the Recovery flowchart (1-1)
No
Display RST MASK 10 (Pink). / [MKS S60]
Is there erroneous discharge (abnormal lit cell)? (Check on the PANEL 1-ADJ menu.)
Yes
To the Recovery flowchart (1-2)
No
Display RST MASK 02 (Red). / [MKS S52]
Set VOL OFFSET to the tentative setting value plus 48. / [VOF ***]
Is there erroneous discharge (abnormal dead cell)? (Check on the PANEL 1-ADJ menu.)
Yes
To the Recovery flowchart (1-3)
No
Display RST MASK 03 (Green). / [MKS S53]
Is there erroneous discharge (abnormal dead cell)? (Check on the PANEL 1-ADJ menu.)
Yes
To the Recovery flowchart (1-4)
No
Return VOL OFFSET to the tentative setting value. / [VOF ***]
Determine the tentative setting value for VOL OFFSET as the final value.
From the Recovery flowchart (1-2) and (1-4)
[To the Main flowchart (2)]

■ Main flowchart (2)...Checking VOL YNOFS3/4/1

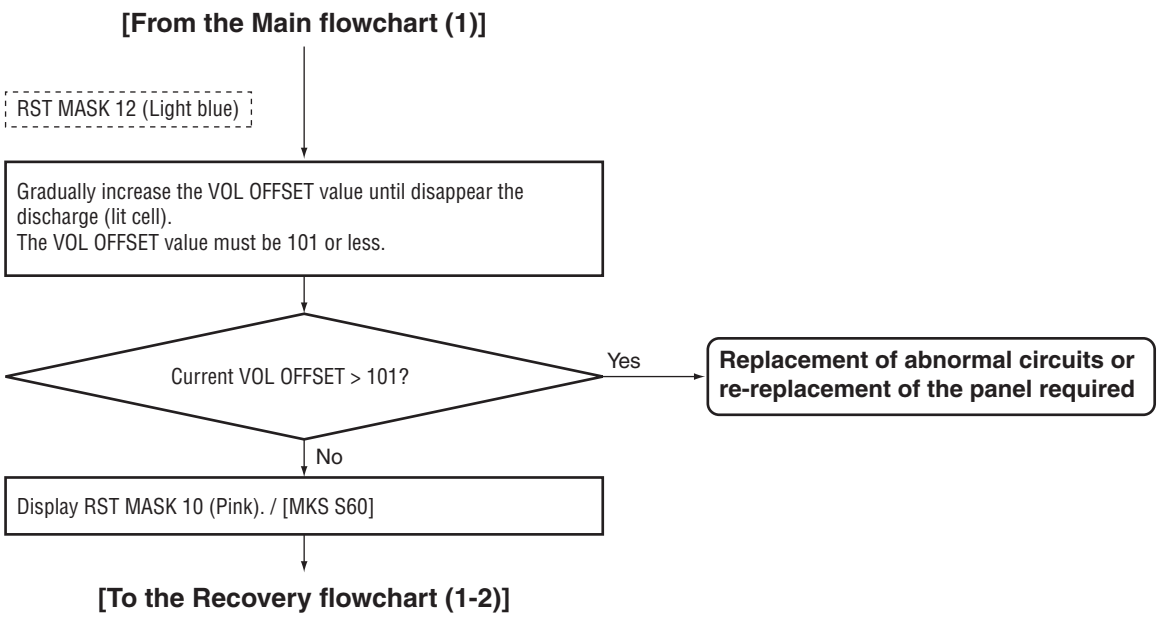

[From the Main flowchart (1)]
Display RST MASK 16 (Green 1023+). / [MKS S66]
Set VOL YNOFS3 to the tentative setting value minus 30. / [VY3 ***]
Set VOL YNOFS4 to the tentative setting value minus 30. / [VY4 ***]
Set VOL YNOFS1 to the tentative setting value minus 30. / [VY1 ***]
Is there erroneous discharge (abnormal dead cell)? (Check on the PANEL 1-ADJ menu.)
Yes
To the Recovery flowchart (2-1)
No
Display RST MASK 15 (Red 1023+). / [MKS S65]
Is there erroneous discharge (abnormal dead cell)? (Check on the PANEL 1-ADJ menu.)
Yes
To the Recovery flowchart (2-2)
No
Display RST MASK 23 (Magenta 3SF). / [MKS S73]
Set VOL YNOFS3 to the tentative setting value plus 13. / [VY3 ***]
Set VOL YNOFS4 to the tentative setting value plus 13. / [VY4 ***]
Set VOL YNOFS1 to the tentative setting value plus 13. / [VY1 ***]
Is there erroneous discharge (abnormal lit cell)? (Check on the PANEL 1-ADJ menu.)
Yes
To the Recovery flowchart (2-3)
No
Return the VOL YNOFS3 to the tentative setting value. / [VY3 ***]
Return the VOL YNOFS4 to the tentative setting value. / [VY4 ***]
Return the VOL YNOFS1 to the tentative setting value. / [VY1 ***]
Determine the tentative setting value for VOL YNOFS3 as the final value.
Determine the tentative setting value for VOL YNOFS4 as the final value.
Determine the tentative setting value for VOL YNOFS1 as the final value.
From the Recovery flowchart (2-1) and (2-3)
[Adjustment completed]

Note:
Make sure that the following values become the final setting values.

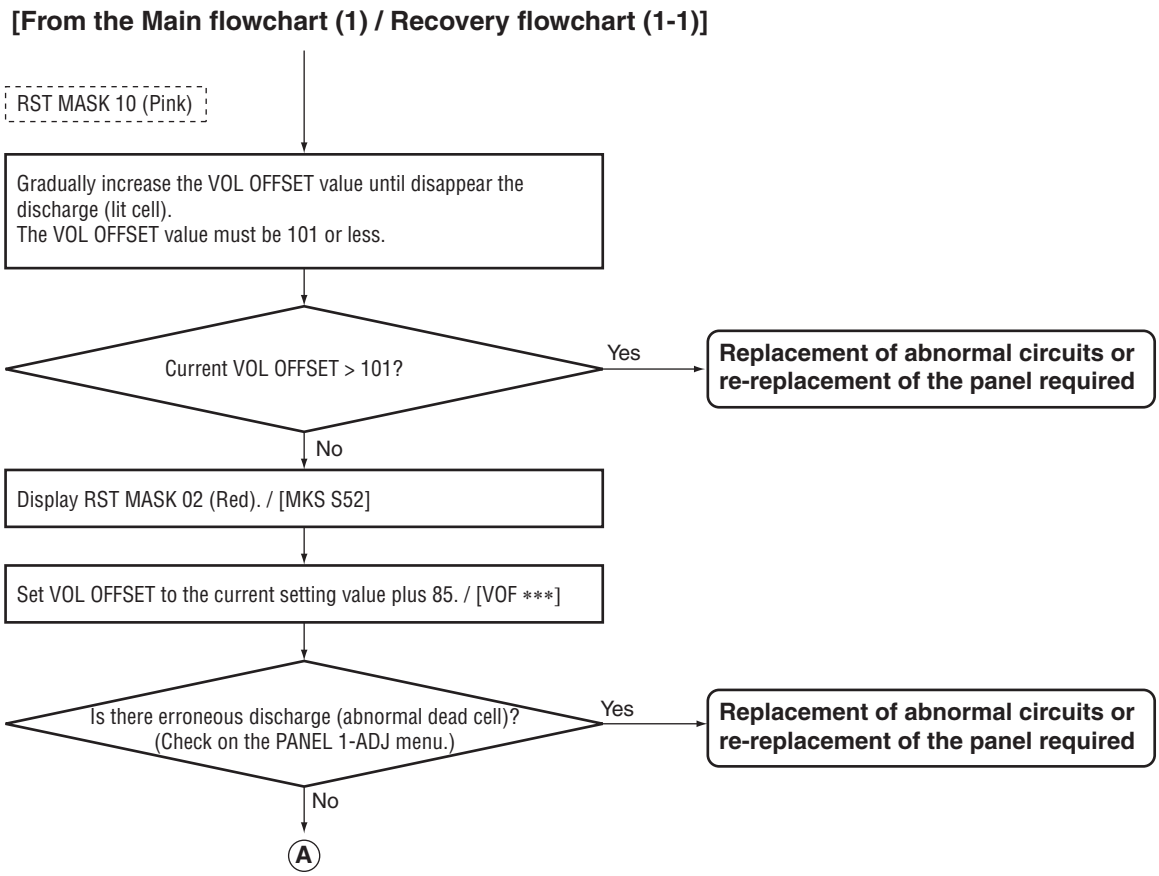
VOL SUS *1	VOL XPOSF2 *1
VOL OFFSET	VOL YNOFS1
VOL RST P *1	VOL YNOFS3
VOL XPOFS1 *1	VOL YNOFS4

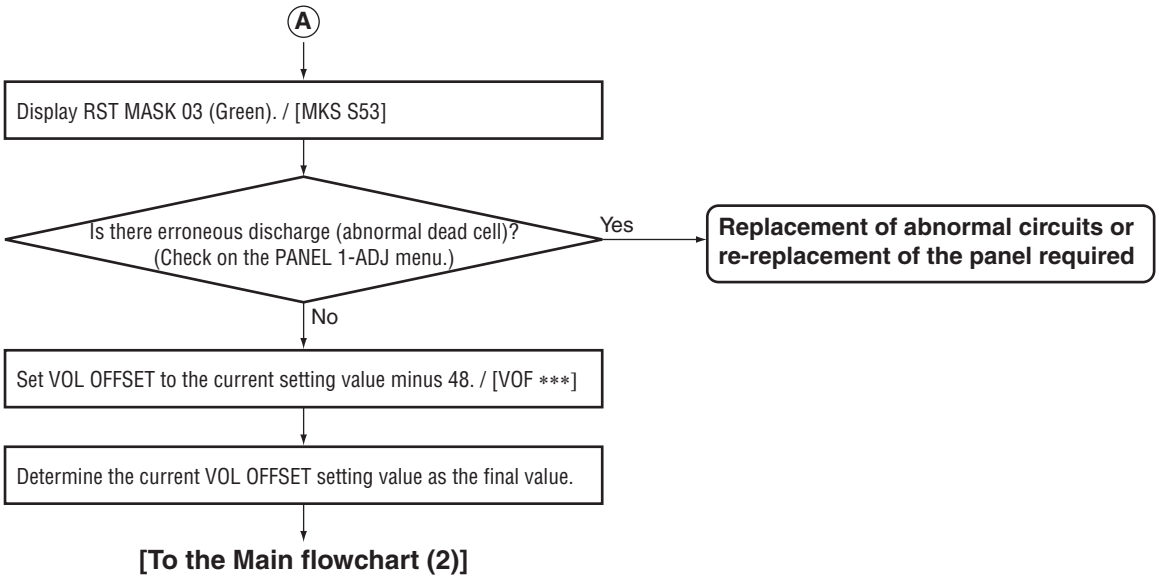
*1: The tentative setting value becomes the final value.

Recovery flowchart (1-1)...Changing the VOL OFFSET setting voltage

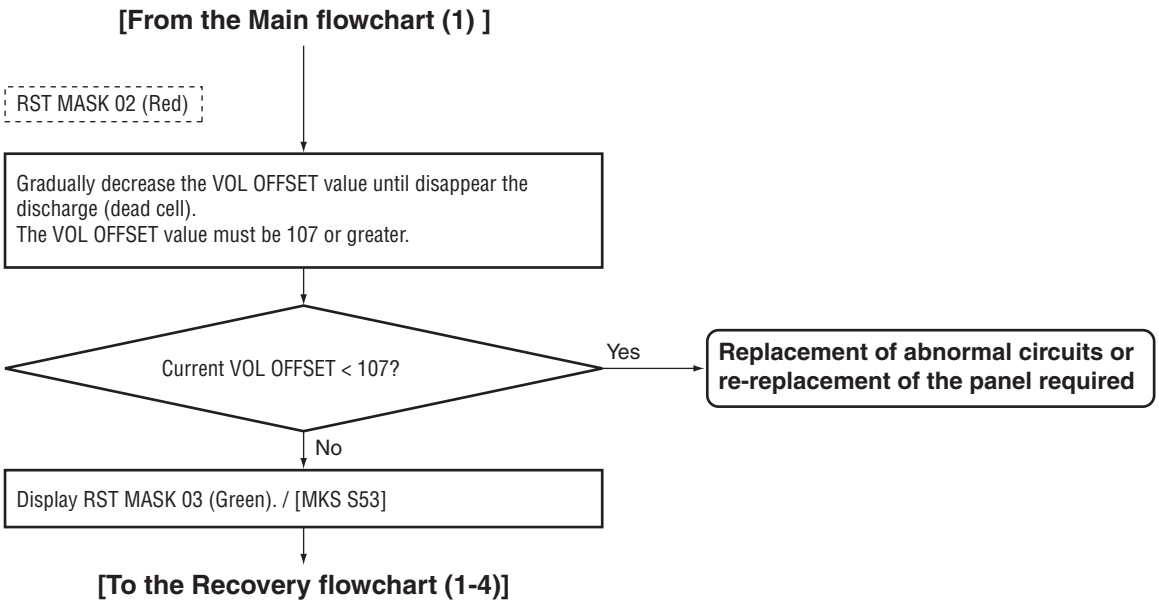

[From the Main flowchart (1)]
RST MASK 12 (Light blue)
Gradually increase the VOL OFFSET value until disappear the discharge (lit cell).
The VOL OFFSET value must be 101 or less.
Current VOL OFFSET > 101?
Yes
Replacement of abnormal circuits or re-replacement of the panel required
No
Display RST MASK 10 (Pink). / [MKS S60]
[To the Recovery flowchart (1-2)]

Recovery flowchart (1-2)...Changing the VOL OFFSET setting voltage

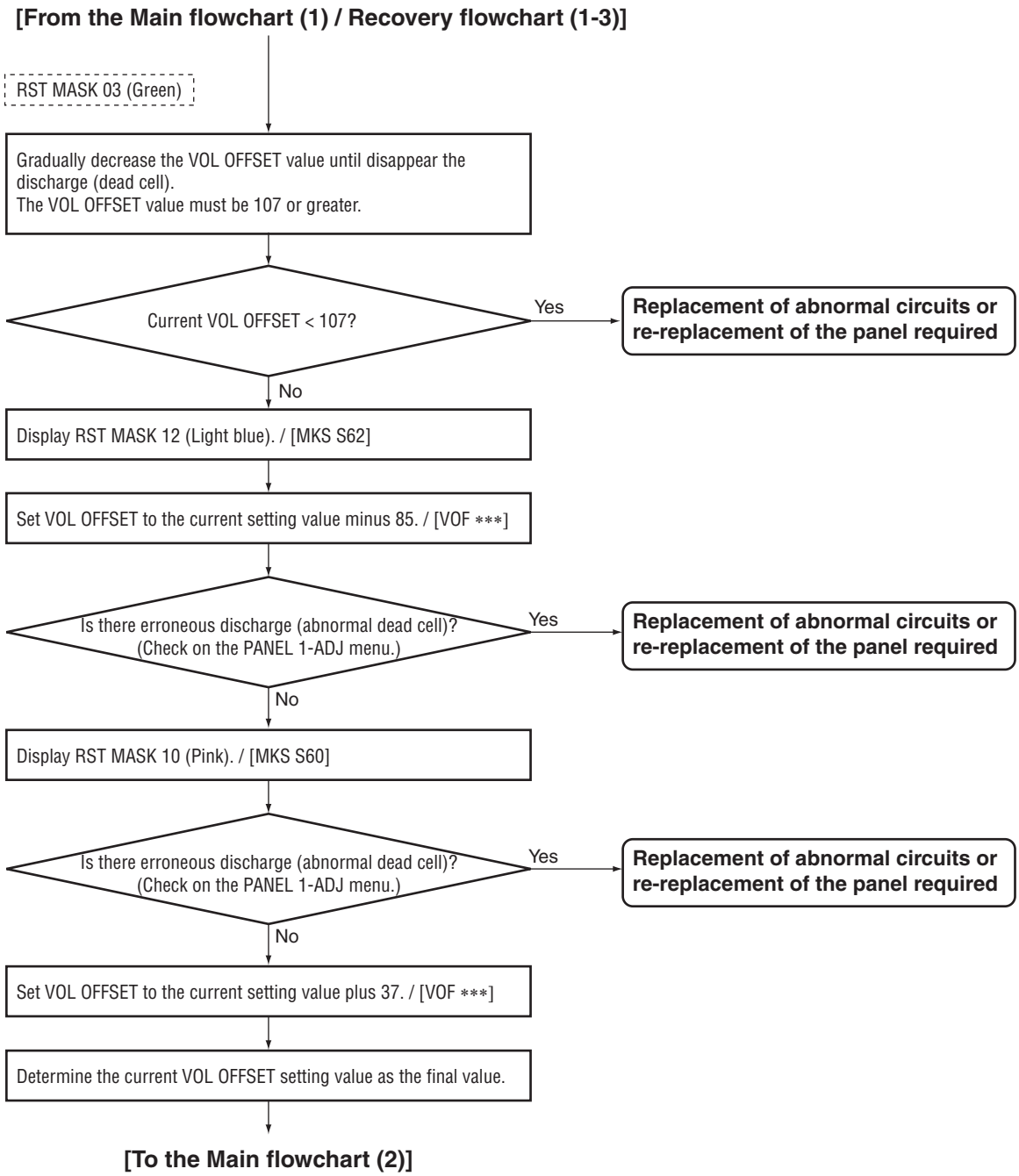

[From the Main flowchart (1) / Recovery flowchart (1-1)]
RST MASK 10 (Pink)
Gradually increase the VOL OFFSET value until disappear the discharge (lit cell).
The VOL OFFSET value must be 101 or less.
Current VOL OFFSET > 101?
Yes
Replacement of abnormal circuits or re-replacement of the panel required
No
Display RST MASK 02 (Red). / [MKS S52]
Set VOL OFFSET to the current setting value plus 85. / [VOF ***]
Is there erroneous discharge (abnormal dead cell)? (Check on the PANEL 1-ADJ menu.)
Yes
Replacement of abnormal circuits or re-replacement of the panel required
No
A


A
Display RST MASK 03 (Green). / [MKS S53]
Is there erroneous discharge (abnormal dead cell)?
(Check on the PANEL 1-ADJ menu.)
Yes
Replacement of abnormal circuits or re-replacement of the panel required
No
Set VOL OFFSET to the current setting value minus 48. / [VOF ***]
Determine the current VOL OFFSET setting value as the final value.
[To the Main flowchart (2)]

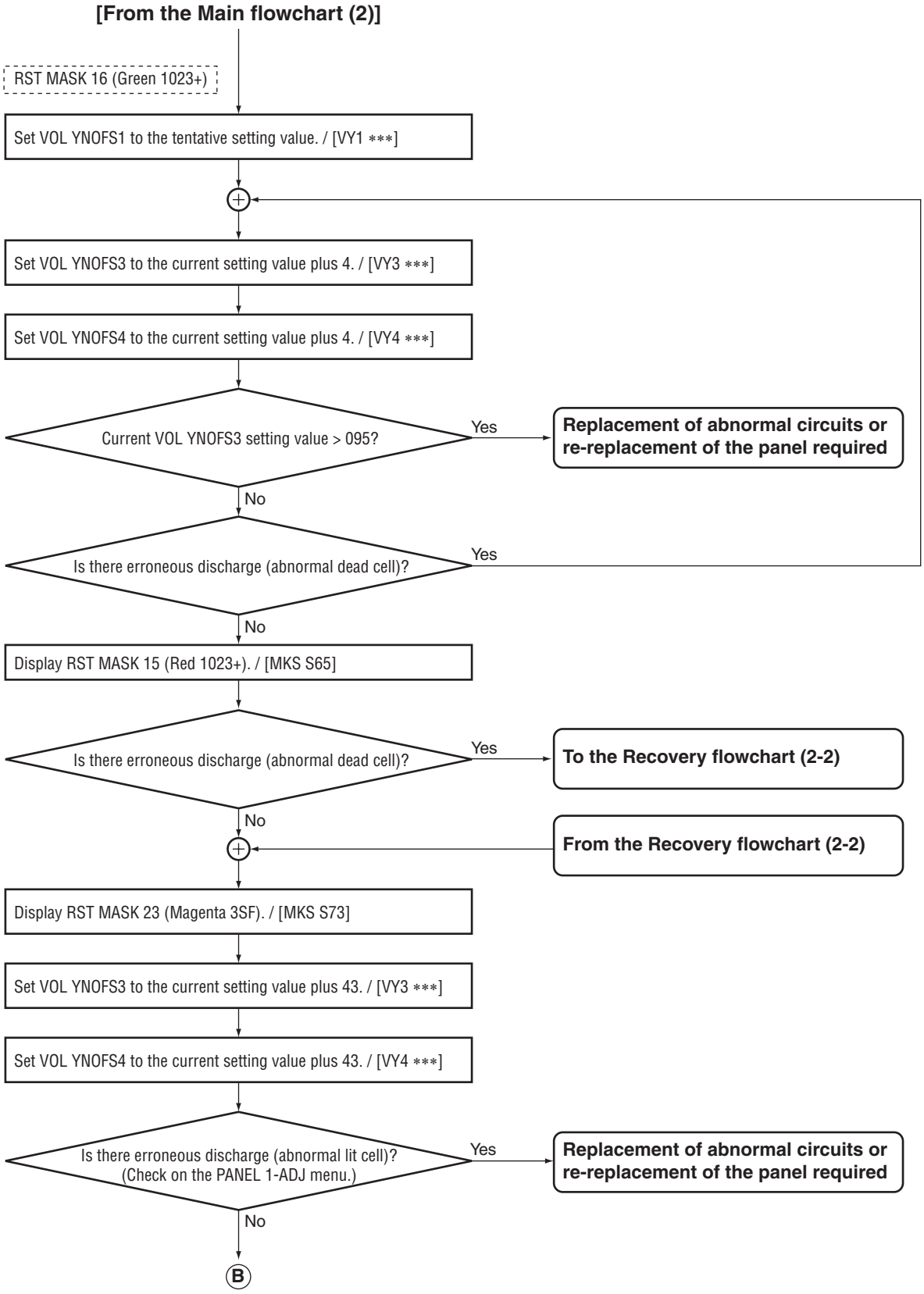
■ Recovery flowchart (1-3)...Changing the VOL OFFSET setting voltage

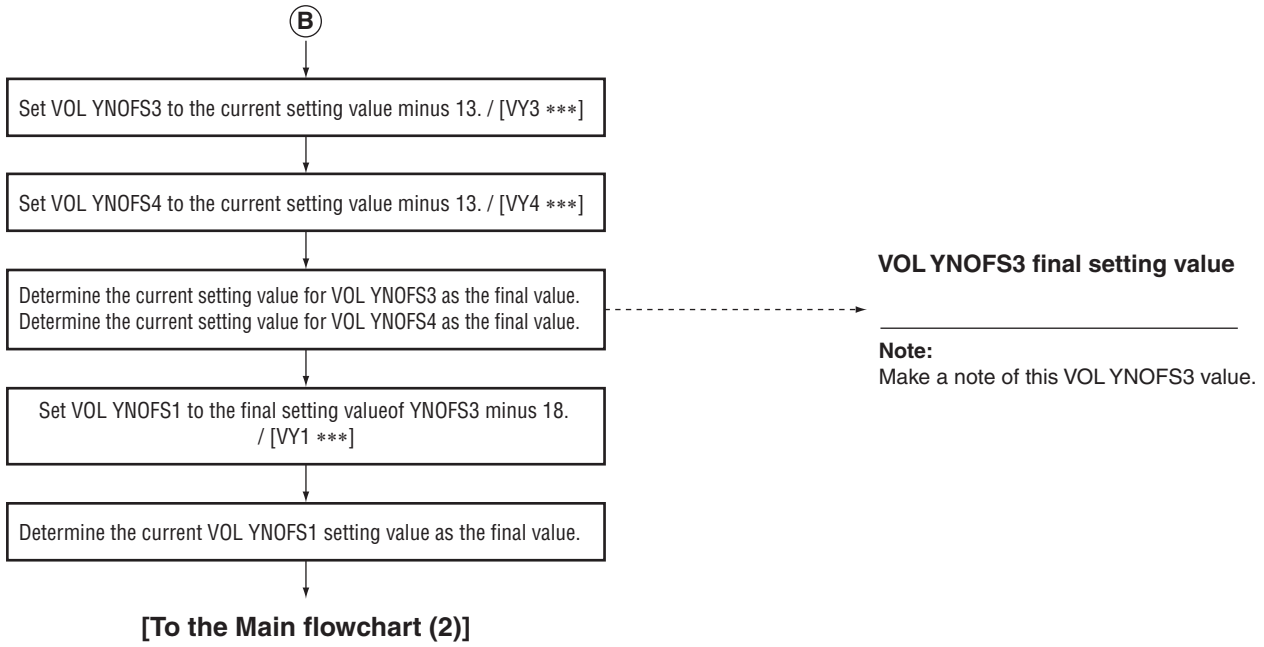

[From the Main flowchart (1)]
RST MASK 02 (Red)
Gradually decrease the VOL OFFSET value until disappear the discharge (dead cell).
The VOL OFFSET value must be 107 or greater.
Current VOL OFFSET < 107?
Yes
Replacement of abnormal circuits or re-replacement of the panel required
No
Display RST MASK 03 (Green). / [MKS S53]
[To the Recovery flowchart (1-4)]

Recovery flowchart (1-4)...Changing the VOL OFFSET setting voltage

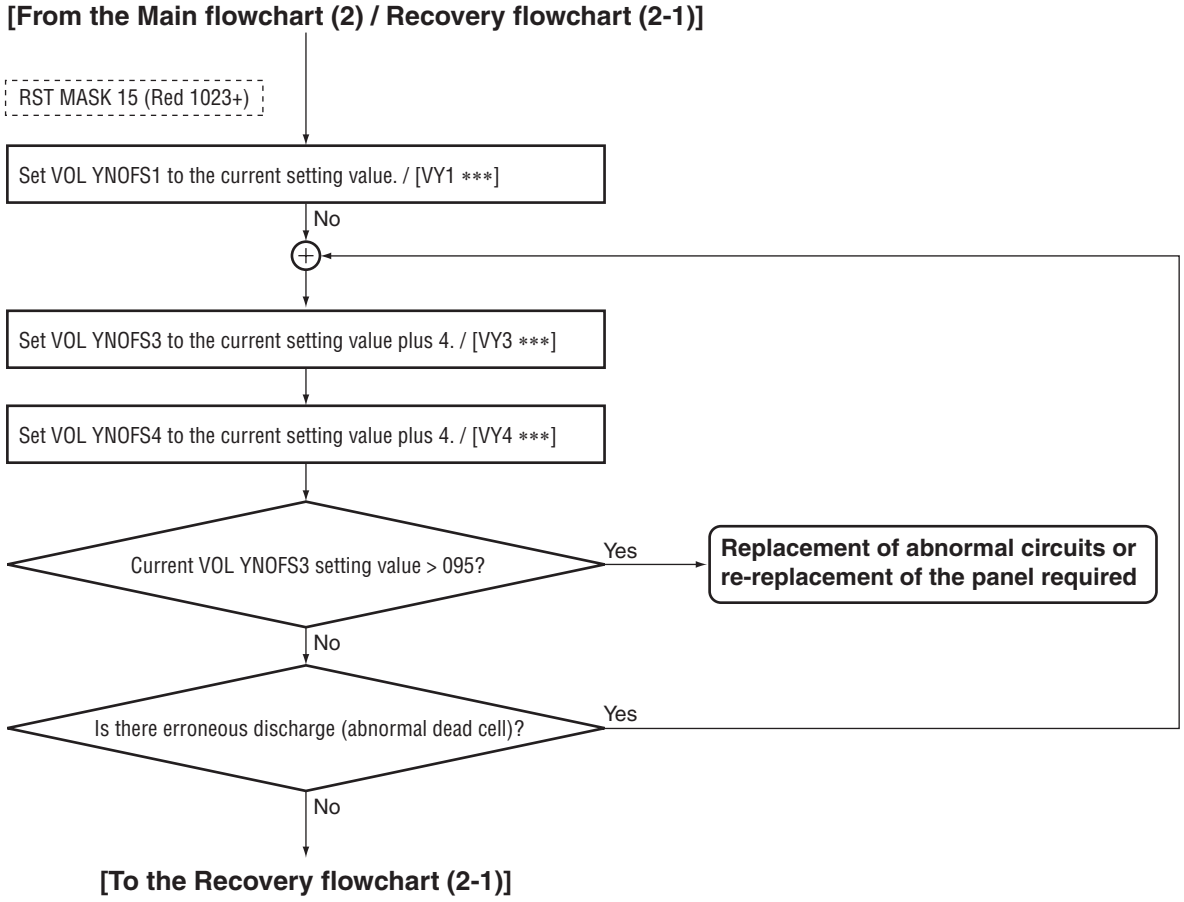

[From the Main flowchart (1) / Recovery flowchart (1-3)]
RST MASK 03 (Green)
Gradually decrease the VOL OFFSET value until disappear the discharge (dead cell).
The VOL OFFSET value must be 107 or greater.
Current VOL OFFSET < 107?
Yes
Replacement of abnormal circuits or re-replacement of the panel required
No
Display RST MASK 12 (Light blue). / [MKS S62]
Set VOL OFFSET to the current setting value minus 85. / [VOF ***]
Is there erroneous discharge (abnormal dead cell)? (Check on the PANEL 1-ADJ menu.)
Yes
Replacement of abnormal circuits or re-replacement of the panel required
No
Display RST MASK 10 (Pink). / [MKS S60]
Is there erroneous discharge (abnormal dead cell)? (Check on the PANEL 1-ADJ menu.)
Yes
Replacement of abnormal circuits or re-replacement of the panel required
No
Set VOL OFFSET to the current setting value plus 37. / [VOF ***]
Determine the current VOL OFFSET setting value as the final value.
[To the Main flowchart (2)]

Recovery flowchart (2-1)...Changing the VOL YNOFS3/4/1 setting voltage

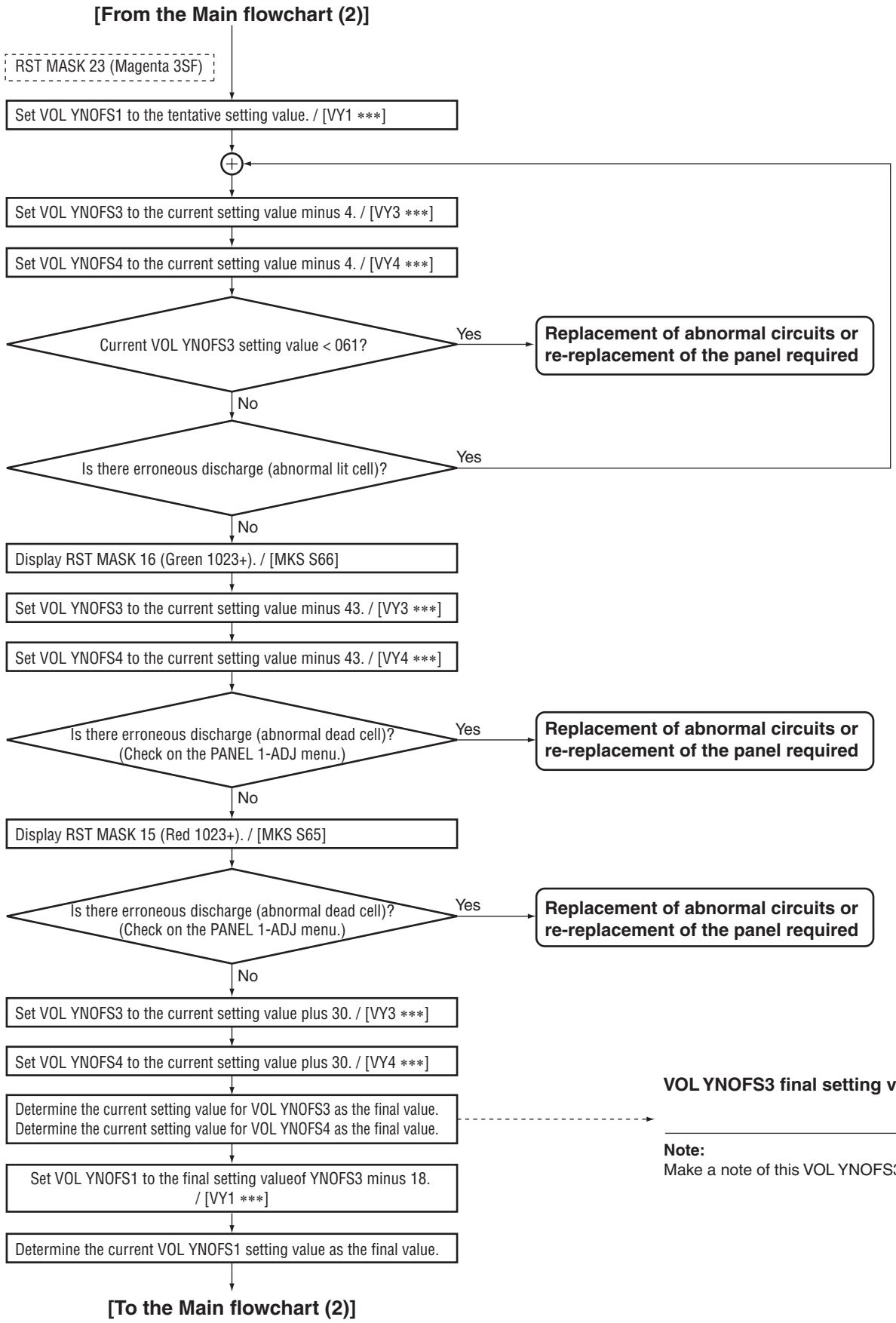

[From the Main flowchart (2)]
RST MASK 16 (Green 1023+)
Set VOL YNOFS1 to the tentative setting value. / [VY1 ***]
Set VOL YNOFS3 to the current setting value plus 4. / [VY3 ***]
Set VOL YNOFS4 to the current setting value plus 4. / [VY4 ***]
Current VOL YNOFS3 setting value > 095?
Yes
Replacement of abnormal circuits or re-replacement of the panel required
No
Is there erroneous discharge (abnormal dead cell)?
Yes
No
Display RST MASK 15 (Red 1023+). / [MKS S65]
Is there erroneous discharge (abnormal dead cell)?
Yes
To the Recovery flowchart (2-2)
No
From the Recovery flowchart (2-2)
Display RST MASK 23 (Magenta 3SF). / [MKS S73]
Set VOL YNOFS3 to the current setting value plus 43. / [VY3 ***]
Set VOL YNOFS4 to the current setting value plus 43. / [VY4 ***]
Is there erroneous discharge (abnormal lit cell)? (Check on the PANEL 1-ADJ menu.)
Yes
Replacement of abnormal circuits or re-replacement of the panel required
No
B


B
Set VOL YNOFS3 to the current setting value minus 13. / [VY3 ***]
Set VOL YNOFS4 to the current setting value minus 13. / [VY4 ***]
Determine the current setting value for VOL YNOFS3 as the final value.
Determine the current setting value for VOL YNOFS4 as the final value.
VOL YNOFS3 final setting value
Note:
Make a note of this VOL YNOFS3 value.
Set VOL YNOFS1 to the final setting valueof YNOFS3 minus 18. / [VY1 ***]
Determine the current VOL YNOFS1 setting value as the final value.
[To the Main flowchart (2)]

Recovery flowchart (2-2)...Changing the VOL YNOFS3/4/1 setting voltage


[From the Main flowchart (2) / Recovery flowchart (2-1)]
RST MASK 15 (Red 1023+)
Set VOL YNOFS1 to the current setting value. / [VY1 ***]
No
Set VOL YNOFS3 to the current setting value plus 4. / [VY3 ***]
Set VOL YNOFS4 to the current setting value plus 4. / [VY4 ***]
Current VOL YNOFS3 setting value > 095?
Yes
Replacement of abnormal circuits or re-replacement of the panel required
No
Is there erroneous discharge (abnormal dead cell)?
Yes
No
[To the Recovery flowchart (2-1)]

Recovery flowchart (2-3)...Changing the VOL YNOFS3/4/1 setting voltage


[From the Main flowchart (2)]
RST MASK 23 (Magenta 3SF)
Set VOL YNOFS1 to the tentative setting value. / [VY1 ***]
Set VOL YNOFS3 to the current setting value minus 4. / [VY3 ***]
Set VOL YNOFS4 to the current setting value minus 4. / [VY4 ***]
Current VOL YNOFS3 setting value < 061?
Yes
Replacement of abnormal circuits or re-replacement of the panel required
No
Is there erroneous discharge (abnormal lit cell)?
Yes
No
Display RST MASK 16 (Green 1023+). / [MKS S66]
Set VOL YNOFS3 to the current setting value minus 43. / [VY3 ***]
Set VOL YNOFS4 to the current setting value minus 43. / [VY4 ***]
Is there erroneous discharge (abnormal dead cell)? (Check on the PANEL 1-ADJ menu.)
Yes
Replacement of abnormal circuits or re-replacement of the panel required
No
Display RST MASK 15 (Red 1023+). / [MKS S65]
Is there erroneous discharge (abnormal dead cell)? (Check on the PANEL 1-ADJ menu.)
Yes
Replacement of abnormal circuits or re-replacement of the panel required
No
Set VOL YNOFS3 to the current setting value plus 30. / [VY3 ***]
Set VOL YNOFS4 to the current setting value plus 30. / [VY4 ***]
Determine the current setting value for VOL YNOFS3 as the final value.
Determine the current setting value for VOL YNOFS4 as the final value.
VOL YNOFS3 final setting value
Note:
Make a note of this VOL YNOFS3 value.
Set VOL YNOFS1 to the final setting valueof YNOFS3 minus 18. / [VY1 ***]
Determine the current VOL YNOFS1 setting value as the final value.
[To the Main flowchart (2)]

■ Setting Voltages

VOF		VRP		VY1		VY3		VY4	
Vysnofs (V)		Vyprst (V)		Vyknofs1,2 (V)		Vyknofs3 (V)		Vyknofs4 (V)	
14	000	146	002	161	001	151	001	151	001
15	005	147	003	162	003	152	003	152	003
16	011	148	005	163	005	153	005	153	005
17	016	149	007	164	008	154	008	154	008
18	021	150	009	165	010	155	010	155	010
19	027	151	011	166	012	156	012	156	012
20	032	152	013	167	014	157	014	157	014
21	037	153	014	168	016	158	016	158	016
22	043	154	016	169	018	159	018	159	018
23	048	155	018	170	020	160	020	160	020
24	053	156	020	171	022	161	022	161	022
25	059	157	022	172	025	162	025	162	025
26	064	158	024	173	027	163	027	163	027
27	069	159	025	174	029	164	029	164	029
28	075	160	027	175	031	165	031	165	031
29	080	161	029	176	033	166	033	166	033
30	085	162	031	177	035	167	035	167	035
31	091	163	033	178	037	168	037	168	037
32	096	164	035	179	040	169	040	169	040
33	101	165	036	180	042	170	042	170	042
34	107	166	038	181	044	171	044	171	044
35	112	167	040	182	046	172	046	172	046
36	117	168	042	183	048	173	048	173	048
37	123	169	044	184	050	174	050	174	050
38	128	170	046	185	052	175	052	175	052
39	133	171	047	186	054	176	054	176	054
40	139	172	049	187	057	177	057	177	057
41	144	173	051	188	059	178	059	178	059
42	149	174	053	189	061	179	061	179	061
43	155	175	055	190	063	180	063	180	063
44	160	176	057	191	065	181	065	181	065
45	165	177	058	192	067	182	067	182	067
46	171	178	060	193	069	183	069	183	069
47	176	179	062	194	072	184	072	184	072
48	181	180	064	195	074	185	074	185	074
49	187	181	066	196	076	186	076	186	076
50	192	182	068	197	078	187	078	187	078
51	197	183	069	198	080	188	080	188	080
52	203	184	071	199	082	189	082	189	082
53	208	185	073	200	084	190	084	190	084
54	213	186	075	201	086	191	086	191	086
55	219	187	077	202	089	192	089	192	089
56	224	188	079	203	091	193	091	193	091
57	229	189	080	204	093	194	093	194	093
58	235	190	082	205	095	195	095	195	095
59	240	191	084	206	097	196	097	196	097
60	245	192	086	207	099	197	099	197	099
61	251	193	088	208	101	198	101	198	101
62	255	194	090	209	104	199	104	199	104
		196	093	210	106	200	106	200	106
		197	095	211	108	201	108	201	108
		198	097	212	110	202	110	202	110
		199	099	213	112	203	112	203	112
		200	100	214	114	204	114	204	114
		201	102	215	116	205	116	205	116
		202	104	216	118	206	118	206	118
		203	106	217	121	207	121	207	121
		204	108	218	123	208	123	208	123
		205	110	219	125	209	125	209	125
		206	111	220	127	210	127	210	127
		207	113	221	129	211	129	211	129
		208	115	222	131	212	131	212	131
		209	117	223	133	213	133	213	133

■ Setting Voltages

VRP		VY1		VY3		VY4	
Vyprst (V)		Vyknofs1,2 (V)		Vyknofs3 (V)		Vyknofs4 (V)	
210	119	224	136	214	136	214	136
211	121	225	138	215	138	215	138
212	122	226	140	216	140	216	140
213	124	227	142	217	142	217	142
214	126	228	144	218	144	218	144
215	128	229	146	219	146	219	146
216	130	230	148	220	148	220	148
217	132	231	150	221	150	221	150
218	133	232	153	222	153	222	153
219	135	233	155	223	155	223	155
220	137	234	157	224	157	224	157
221	139	235	159	225	159	225	159
222	141	236	161	226	161	226	161
223	143	237	163	227	163	227	163
224	144	238	165	228	165	228	165
225	146	239	168	229	168	229	168
226	148	240	170	230	170	230	170
227	150	241	172	231	172	231	172
228	152	242	174	232	174	232	174
229	154	243	176	233	176	233	176
230	155	244	178	234	178	234	178
231	157	245	180	235	180	235	180
232	159	246	183	236	182	236	182
233	161	247	185	237	185	237	185
234	163	248	187	238	187	238	187
235	165	249	189	239	189	239	189
236	166	250	191	240	191	240	191
237	168	251	193	241	193	241	193
238	170	252	195	242	195	242	195
239	172	253	197	243	198	243	198
240	174	254	200	244	200	244	200
241	176	255	202	245	202	245	202
242	177	256	204	246	204	246	204
243	179	257	206	247	206	247	206
244	181	258	208	248	208	248	208
245	183	259	210	249	210	249	210
246	185	260	212	250	212	250	212
247	187	261	214	251	214	251	214
248	188	262	217	252	217	252	217
249	190	263	219	253	219	253	219
250	192	264	221	254	221	254	221
251	194	265	223	255	223	255	223
252	196	266	225	256	225	256	225
253	198	267	227	257	227	257	227
254	199	268	229	258	229	258	229
255	201	269	232	259	232	259	232
256	203	270	234	260	234	260	234
257	205	271	236	261	236	261	236
258	207	272	238	262	238	262	238
259	209	273	240	263	240	263	240
260	210	274	242	264	242	264	242
261	212	275	244	265	244	265	244
262	214	276	246	266	246	266	246
263	216	277	249	267	249	267	249
264	218	278	251	268	251	268	251
265	220	279	253	269	253	269	253
266	221	280	255	270	255	270	255

VRP	
Vyprst (V)	
267	223
268	225
269	227
270	229
271	231
272	232
273	234
274	236
275	238
276	240
277	242
278	243
279	245
280	247
281	249
282	251
283	253
284	254

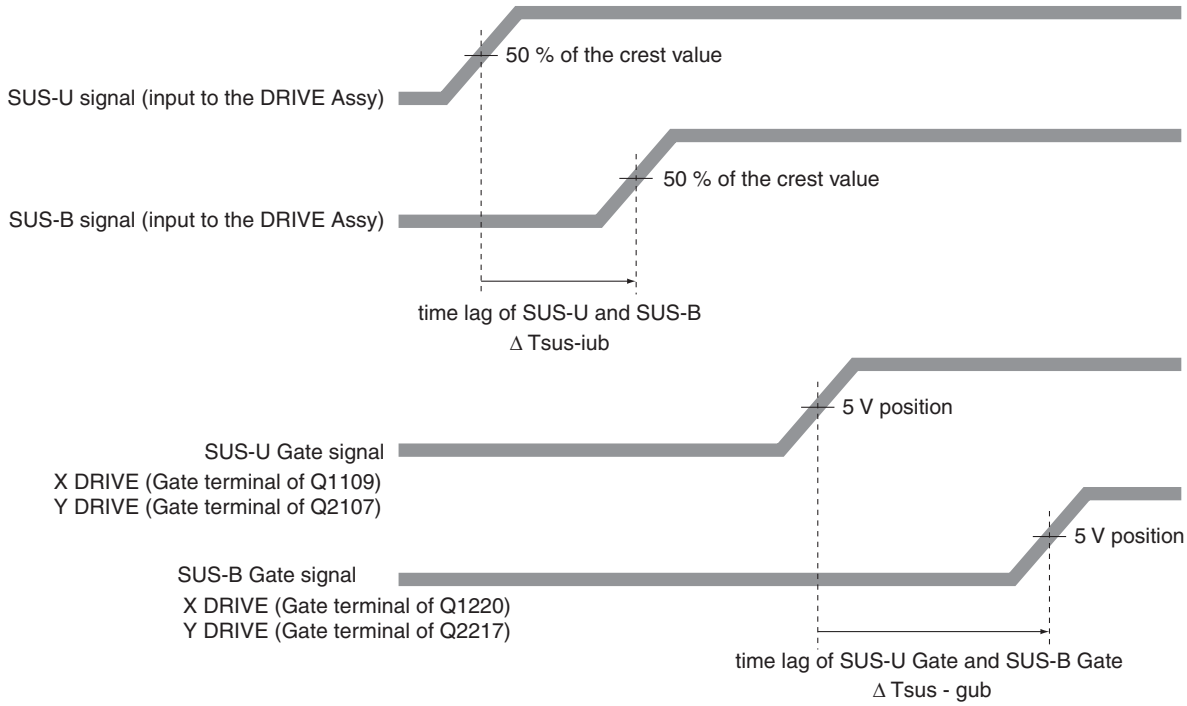
8.5 ADJUSTMENT WHEN THE DRIVE ASSYS ARE REPLACED

■ Waveform adjustments required when replacing the following parts of the X DRIVE and Y DRIVE Assys.

Assy Name	Ref No.	Part Name	Part Category	Remarks
X DRIVE Assy	IC1101	PS9117AP	Photo Coupler	
	IC1104	TND307TD	FET Driver	
	IC1204	PS9117AP	Photo Coupler	
	IC1209	TND307TD	FET Driver	
Y DRIVE Assy	IC2101	PS9117AP	Photo Coupler	
	IC2103	TND307TD	FET Driver	
	IC2104	TND307TD	FET Driver	
	IC2201	PS9117AP	Photo Coupler	
	IC2203	TND307TD	FET Driver	

■ TIME LAG ADJUSTMENT OF THE CONTROL SIGNAL (SUS-B)

① Measure the time lag for the SUS-U signal to the SUS-B signal.
② Check the time lag for the SUS-B Gate signal to the SUS-U Gate siganl.
Adjust the variable control so that the time lag of Gate becomes " time lag of input signal + $\alpha \pm 5$ nsec."
Note: For details on measuring points of waveform, see the figure below.


50 % of the crest value
SUS-U signal (input to the DRIVE Assy)
50 % of the crest value
SUS-B signal (input to the DRIVE Assy)
time lag of SUS-U and SUS-B
Δ Tsus-iub
5 V position
SUS-U Gate signal
X DRIVE (Gate terminal of Q1109)
Y DRIVE (Gate terminal of Q2107)
5 V position
SUS-B Gate signal
X DRIVE (Gate terminal of Q1220)
Y DRIVE (Gate terminal of Q2217)
time lag of SUS-U Gate and SUS-B Gate
Δ Tsus - gub

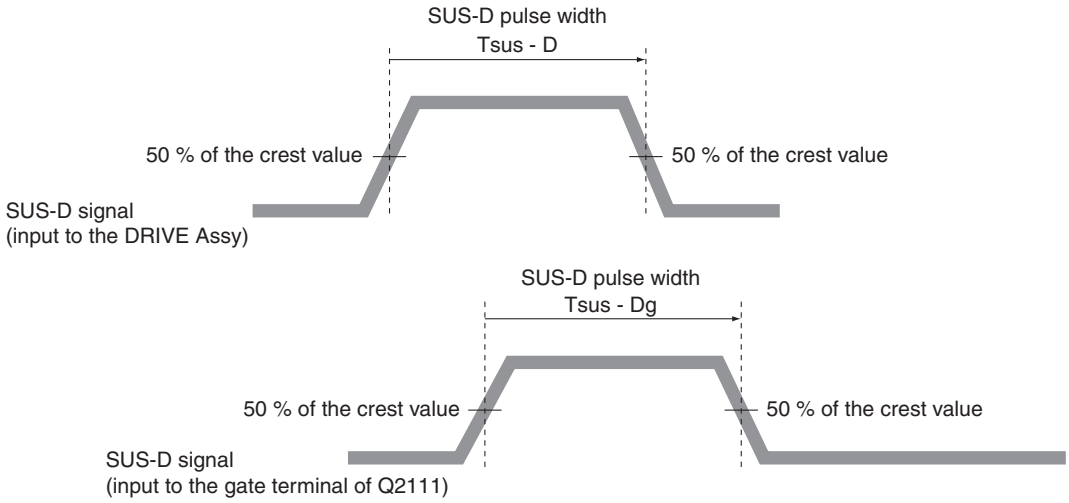
Time lag of SUS-U Gate and SUS-B Gate : Δ Tsus - gub
Adjust so that "Δ Tsus - gub = Δ Tsus - iub + $\alpha \pm 5$ nsec," using the variable controls shown in the table below:

Assy	VR	Value of α
X DRIVE Assy	VR1002	70 nsec
Y DRIVE Assy	VR2002	60 nsec

■ DELAY ADJUSTMENT OF THE CONTROL SIGNAL (SUS-D)

① Measure the pulse width of the SUS-D signal.
② Check the pulse width of the SUS-D input signal (gate terminal of Q2111).
Adjust the variable control so that the pulse width of the SUS-D input signal (gate terminal of Q2111) becomes the same pulse width ± 5 nsec as the SUS-D signal.

Note: • Be sure to set the Drive to OFF for adjustment.
• For details on measuring points of waveform, see the figure below.

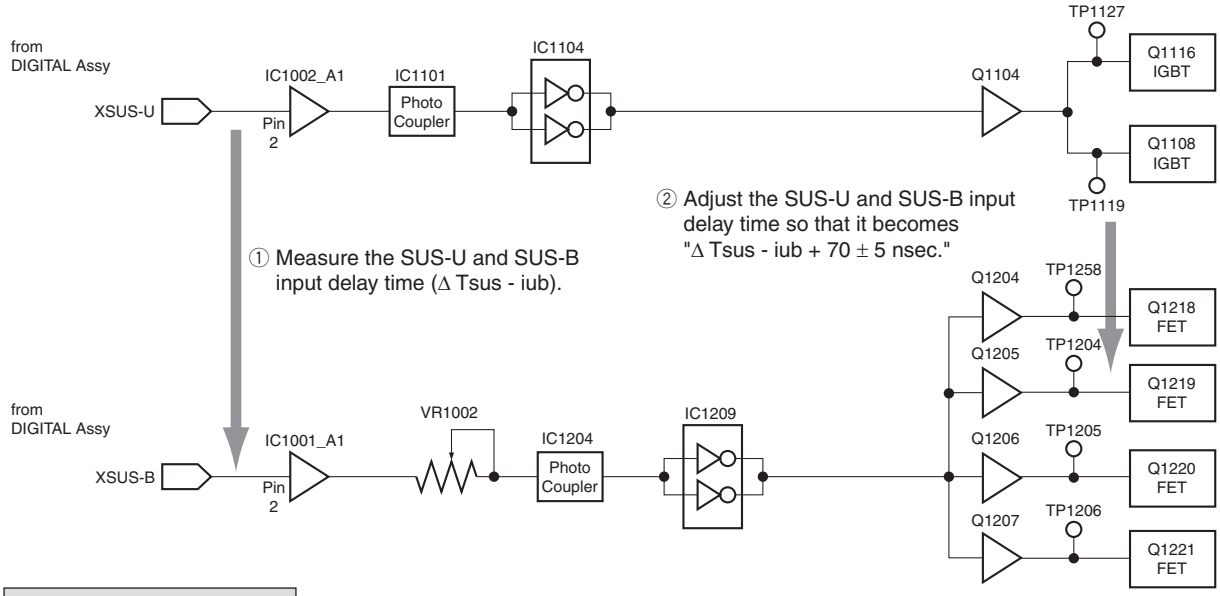

SUS-D pulse width
Tsus - D
50 % of the crest value
50 % of the crest value
SUS-D signal
(input to the DRIVE Assy)
SUS-D pulse width
Tsus - Dg
50 % of the crest value
50 % of the crest value
SUS-D signal
(input to the gate terminal of Q2111)

SUS-D pulse width: Tsus - Dg
Adjust so that "Tsus - Dg = Tsus - D ± 5 nsec," using the variable control shown in the table below:

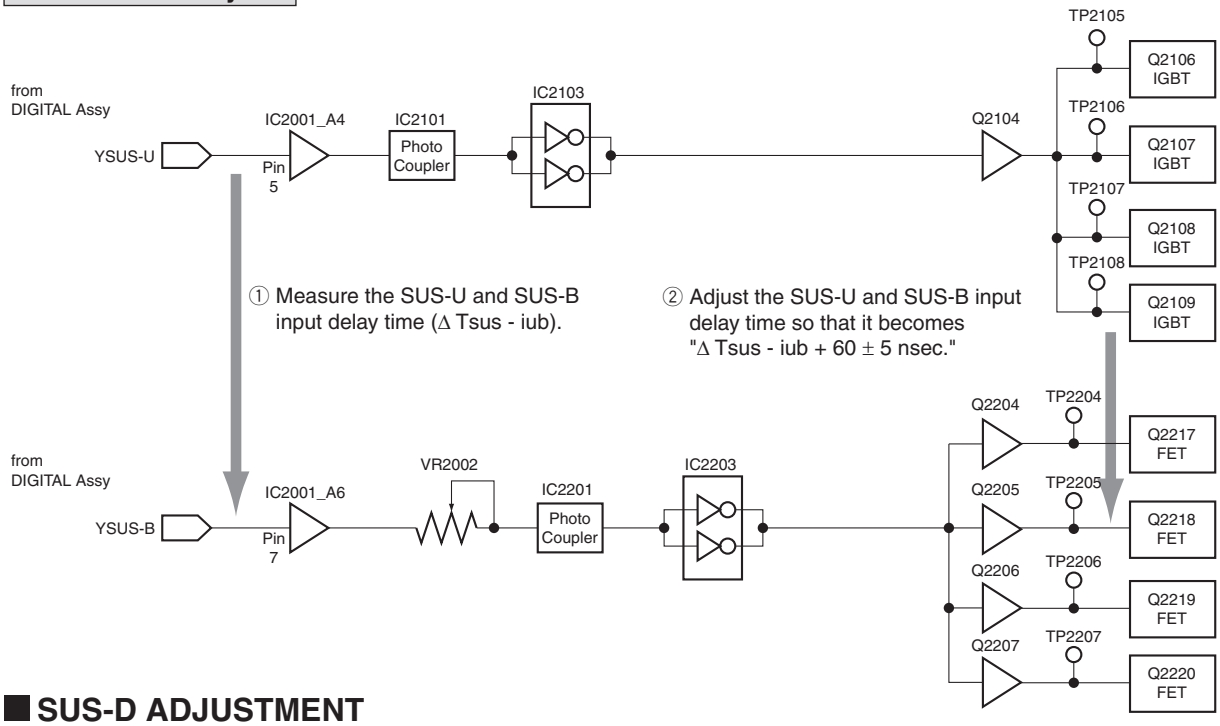
Assy	VR
Y DRIVE Assy	VR2001

■ SUS-B ADJUSTMENT

X DRIVE Assy

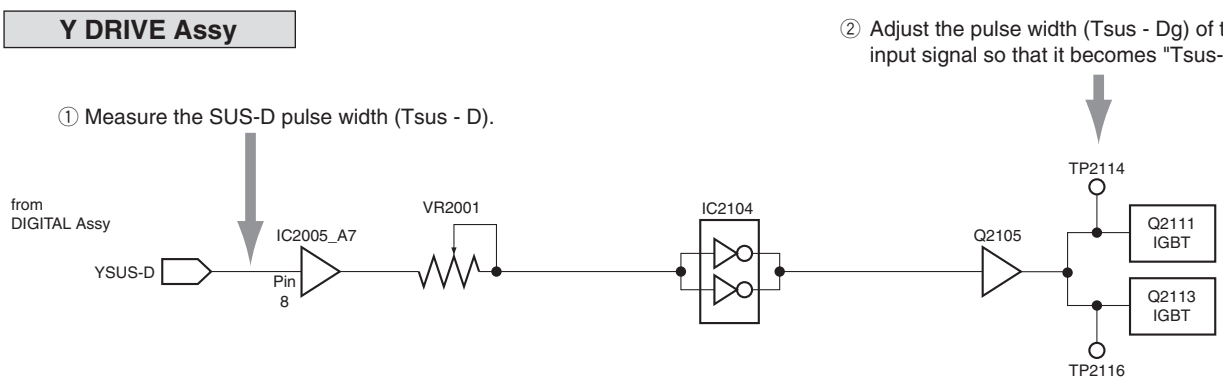


Y DRIVE Assy



■ SUS-D ADJUSTMENT

Y DRIVE Assy



9. RS-232C

9.1 OUTLINE OF RS-232C COMMAND

9.1.1 PREPARED TOOLS

It is necessary to prepare the following one to use 232C command.

- PC
- Application for control
- 232C cable (straight)

∗ The setting of the Com port cannot be communicated if it doesn't do correctly.
(Please follow a set explanation of PC in the Com port)

9.1.2 USING RS-232C COMMANDS

Individual ports are provided for RS-232C and SR+ connectors with this model. Therefore, unlike the case of previous models, which required switching of exclusive operation between these connectors on the Integrator menu, switching is no longer required.

9.2 LIST OF RS-232C COMMANDS

RS-232C commands can be used in Service Factory mode. Before using RS-232C commands, it is necessary to change the factory presetting. See "9.1 OUTLINE OF RS-232C COMMAND".
[Note ; If you want to see version infomation (ex. QS1, QSE, Factory, Menu), Please see 10 seconds after starting.]

■ RS-232C command list

Command Name		Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
A							
ABL	***	Adjusting the upper limit of the power	●		Mod	●	UP*/DN* is not effective
AMT	S00	Audio mute OFF		●			
	S01	Audio mute ON		●			
AP0	S**	ADDRESS L1, L2 setting	●		Mod	●	
AP1	S**	ADDRESS L3, L4 setting	●		Mod	●	
AP2	S**	ADDRESS U1, U2 setting	●		Mod	●	
AP3	S**	ADDRESS U3, U4 setting	●		Mod	●	
APN	***	1V average pulse number setting	●		Mod	●	UP*/DN* is not effective
APW	S00	APL interlocked function: OFF	●			●	
	S01	APL interlocked function: ON	●			●	
	S02	APL interlocked WB: ON / APL interlocked γ : OFF	●			●	
	S03	APL interlocked WB: OFF / APL interlocked γ : ON	●			●	
B							
BCP		Copying the backup data in the EEPROM	●			●	
BHI	***	User white balance : BLUE highlight	●				
BLW	***	User white balance : BLUE lowlight	●				
BRT	***	User brightness	●				
BSM	S00	After image/Burning safe mode: OFF	●				
	S01	After image/Burning safe mode: ON	●				
C							
CBU		Clearing backup data of EEPROM	●			●	
CHM		Clearing data of the hour meter	●			●	
CHN	FWD	Changing tuner preset channel (1 step forward)		●			
	REV	Changing tuner preset channel (1 step reverse)		●			
CNT	***	User contrast	●				
CMT		Clearing data of the maximum temperature	●			●	
CPC		Clearing power-on count data	●			●	
CPD		Clearing power-down histrory	●			●	
CPM		Clearing data of the pulse meter	●			●	
CSD		Clearing shutdown history	●			●	
D							
DIZ	S00	Dither/L dither OFF & noise OFF	●			●	
	S01	Dither/L dither ON & noise ON	●			●	
	S02	Dither/L dither OFF & noise ON	●			●	
	S03	Dither/L dither ON & noise OFF	●			●	
DRV	S00	Panel drive power OFF	●				
	S01	Panel drive power ON	●				
DW*		To subtract *** to the adjustment value (*** = 000 to 999, designated by a function command)		●			
F							
FAJ		Determining the flag of the DIGITAL Assy adjustment in "adjustment is completed"	●			●	
FAN		Factory mode off	●	●		●	
FAY		Factory mode on	●	●			
FST		Set each memory setting of MTB side to the shipment state.		●		●	

Command Name		Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
G							
GHI	***	User white balance : GREEN highlight	●				
GLW	***	User white balance : GREEN low light	●				
I							
INA	***	Switching the terrestrial analog signal (***: channel number)		●	Main		
		Switching the terrestrial analog signal		●	Main		
INC	***	Switching the terrestrial digital signal (Step-upD and RegularD only) (***:channel number)		●	Main		
		Switching the terrestrial digital signal (Step-upD and RegularD only)		●	Main		
INH		Switching the HomeGallery		●			
INP	S01	Input switch: INPUT 1		●	Main		
	S02	Input switch: INPUT 2		●	Main		
	S03	Input switch: INPUT 3		●	Main		
	S04	Input switch: INPUT 4		●	Main		
	S05	Input switch: INPUT 5		●	Main		
	S06	Input switch: INPUT 6 (PC)		●	Main		
M							
MKC	S00	Panel mask indication off	●		Mod		
	S01	H ramp (slant 1) M	●		Mod	●	
	S02	H ramp (slant 4) M	●		Mod	●	
	S03	Slanting ramp M	●		Mod	●	
	S04	30 for aging	●		Mod	●	
	S05	05 for aging	●		Mod	●	
	S06	Erasing afterimage 1	●		Mod	●	
	S07	Erasing afterimage 2 (RGB: zigzag, V: reverse)	●		Mod	●	
	S08	White (change in luminance level)	●		Mod	●	
	S09	PEAK SEEK RASTER	●		Mod	●	
	S10	For engineering use	●		Mod	●	
	S11	Green vertical line scroll	●		Mod	●	
	S12	Green horizontal line scroll	●		Mod	●	
	S13	Vertical ramp vertical scroll (white)	●		Mod	●	
	S14	Vertical ramp vertical scroll (green)	●		Mod	●	
	S15	Horizontal ramp horizontal scroll (white)	●		Mod	●	
	S16	Horizontal ramp horizontal scroll (green)	●		Mod	●	
	S17	Cross hatch + window	●		Mod	●	
MKS	S00	MASK off	●		Mod		
	S01	H ramp (slant 1)	●		Mod	●	
	S02	H ramp (slant 4)	●		Mod	●	
	S03	V ramp (slant 1)	●		Mod	●	
	S04	Slanting ramp	●		Mod	●	
	S05	Window (Hi= 870, Lo= 102)	●		Mod	●	

Command Name		Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
M							
MKS	S06	Window (Hi= 1023, Lo= 102)	●		Mod	●	
	S07	Window (Hi= 1023, Lo=000)	●		Mod	●	
	S08	Window (Hi= 1023) 4 %	●		Mod	●	
	S09	Window (Hi= 1023) 1.25 %	●		Mod	●	
	S10	Window (1/7 LINE)	●		Mod	●	
	S11	STRIPE (MGT/GRN)	●		Mod	●	
	S12	STRIPE (GRN/MGT)	●		Mod	●	
	S13	B & W, checker (1 line)	●		Mod	●	
	S14	B & W, checker (2 lines)	●		Mod	●	
	S15	B & W, checker (4 lines)	●		Mod	●	
	S16	B & W, checker (8 lines)	●		Mod	●	
	S17	COLOR BAR	●		Mod	●	
	S18	Slanting lines	●		Mod	●	
	S19	Red & black, checker (1 line)	●		Mod	●	
	S20	Red & black, checker (2 lines)	●		Mod	●	
	S21	Red & black, checker (4 lines)	●		Mod	●	
	S22	Red & black, checker (8 lines)	●		Mod	●	
	S23	Erasing afterimage (RGB: zigzag, V: reverse)	●		Mod	●	
	S24	SUS 2000 pulses (black raster)	●		Mod	●	
	S25	1 for perfect linear	●		Mod	●	
	S26	2 for perfect linear	●		Mod	●	
	S27	3 for perfect linear	●		Mod	●	
	S28	4 for perfect linear	●		Mod	●	
	S29	RGB checker 1	●		Mod	●	
	S30	RGB checker 2	●		Mod	●	
	S31	Window RED (RED=1023)	●		Mod	●	
	S32	Window GREEN (GREEN=1023)	●		Mod	●	
	S33	Window BLUE (BLUE=1023)	●		Mod	●	
	S34	Even line horizontal stripes	●		Mod	●	
	S35	Odd line horizontal stripes	●		Mod	●	
	S36	Afterimage check 1	●		Mod	●	
	S37	Afterimage check 2	●		Mod	●	
	S38	Afterimage check 3	●		Mod	●	
	S39	Afterimage check 4	●		Mod	●	
	S40	Red single-color slanting ramp	●		Mod	●	
	S41	GREEN single-color slanting ramp	●		Mod	●	
	S42	BLUE single-color slanting ramp	●		Mod	●	
	S43	Black back acnode	●		Mod	●	
	S44	Horizontal stripes every eight white lines	●		Mod	●	
	S45	5 for perfect linear	●		Mod	●	
	S46	6 for perfect linear	●		Mod	●	
	S47	7 for perfect linear	●		Mod	●	
	S48	8 for perfect linear	●		Mod	●	
	S49	Mask for ABL adjustment	●		Mod	●	
	S51	Raster - White	●		Mod	●	
	S52	Raster - Red	●		Mod	●	
	S53	Raster - Green	●		Mod	●	
	S54	Raster - Blue	●		Mod	●	
	S55	Raster - Black	●		Mod	●	

Command Name		Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
MKS	S56	Raster - Cyan	●		Mod	●	
	S57	Raster - Magenta	●		Mod	●	
	S58	Raster - Yellow	●		Mod	●	
	S59	Raster - Pale purple	●		Mod	●	
	S60	Raster - Pink	●		Mod	●	
	S61	Raster - Yellow egg color	●		Mod	●	
	S62	Raster - Light blue	●		Mod	●	
	S63	Raster - Beige	●		Mod	●	
	S64	Raster - Gray 535	●		Mod	●	
	S65	Raster - Red 1023+	●		Mod	●	
	S66	Raster - Green 1023+	●		Mod	●	
	S67	Raster - Blue 1023+	●		Mod	●	
	S68	Raster - Red 626	●		Mod	●	
	S69	Raster - Green 626	●		Mod	●	
	S70	Raster - Blue 626	●		Mod	●	
	S71	Raster - Gray 2SF	●		Mod	●	
	S72	Raster - Cyan 3SF	●		Mod	●	
	S73	Raster - Magenta 3SF	●		Mod	●	
	S74	Raster - Yellow 3SF	●		Mod	●	
	S75	Raster - Gray 307	●		Mod	●	
MST	S00	Display one screen		●			
	S01	PsideP (Main size: normal)		●			
	S02	PinP (Right down)		●			
	S03	PinP (Right up)		●			
	S04	PinP (Left up)		●			
	S05	PinP (Left down)		●			
	S08	SWAP (Exchanging sub-screen)		●			
N							
NGP	S00	Negative positive inversion: OFF	●			●	
	S01	Negative positive inversion: ON	●			●	
O							
OSD	S00	Turning OSD setting to off		●	Main		
	S01	Turning OSD setting to on		●	Main		
P							
PAV	S**	Switching panel functions interlocked with the AV selection	●				
PBH	***	Panel white balance adjustment - Blue highlight	●		Mod	●	
PBL	***	Panel white balance adjustment - Blue low light	●		Mod	●	
PDM	S00	Passing PD signals to the POWER SUPPLY Unit => Power-down	●				
	S01	Not passing PD signals to the POWER SUPPLY Unit => No power-down	●				
PFL	S00	Peripheral luminance correction: OFF	●			●	
	S01	Peripheral luminance correction: ON fixed	●			●	
	S02	Peripheral luminance correction: APL interlocked ON	●			●	
PES	S00	Set the power consumption setting of the panel side to OFF	●				
	S01	Set the power consumption setting of the panel side to Energy saving 1	●				
	S02	Set the power consumption setting of the panel side to Energy saving 2	●				
PFN		Factory mode: off	●			●	
PFS		Setup at shipment	●			●	
PFY		Factory mode: on	●			●	
PGB	S**	Independent gamma Blue	●				
PGG	S**	Independent gamma Green	●				

Command Name		Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
P							
PGR	S**	Independent gamma Red	●				
PGH	***	Panel white balance adjustment - Green highlight	●		Mod	●	
PGL	***	Panel white balance adjustment - Green low light	●		Mod	●	
PMT	S00	Canceling panel muting	●				
	S01	Panel muting	●				
PKD	S00	Peak luminance detection: OFF	●			●	
	S01	Peak luminance detection: ON	●			●	
PKL	S**	Panel brightness setting	●				
POF		Power OFF	●	●	Main		
PON		Power on	●	●	Main		
PPT	S00	Panel protection: off	●			●	
	S01	Panel protection: on	●			●	
PRH	***	Panel white balance adjustment - Red highlight	●		Mod	●	
PRL	***	Panel white balance adjustment - Red low light	●		Mod	●	
PUC	S00	Pure cinema: off		●	Main	●	
	S01	Pure cinema: Standard		●	Main	●	
	S02	Pure cinema: Advance		●	Main	●	
	S03	Pure cinema: Smooth		●	Main	●	
Q							
QAJ		Acquiring various adjustment values	●				
QMT		Acquiring temperature of MTB side and Fan speed		●			
QNG		Acquiring shutdown information of MTB side		●			
QPD		Acquiring logs of power-down points	●				
QPM		Acquiring data of the pulse meter	●				
QPW		Acquiring panel white balance adjustment values	●				
QS1		Acquiring unit data, such as the software version common to all models, regardless of destination	●	●			
QS2		Acquiring data on the status of the unit, such as temperature	●				
QS3		Each information output for panel	●				
QSE		Acquiring unit data, such as the software version common to all models, regardless of destination		●			
QSD		Acquiring data on shutdown	●				
QSI		Acquiring data related with signals	●				
QSP		Acquiring the software sub-version of the microcomputer at panel side	●				
R							
RBL	S**	Setting of blue level for panel degradation correction	●		Mod	●	
RGL	S**	Setting of green level for panel degradation correction	●		Mod	●	
RHI	***	User white balance - Red highlight	●				
RLS	S**	Room light sensor operation at panel side	●				
RLW	***	User white balance - Red low light	●				
RRL	S**	Setting of red level for panel degradation correction	●		Mod	●	
R1K	***	RESET1ST_KSB adjustment	●		Mod	●	UP*/DN* is not effective
R2K	***	RESET2ND_KSB adjustment	●		Mod	●	UP*/DN* is not effective

Command Name		Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
S							
SDM	S00	Shutdown enabled	●				
	S01	Shutdown prohibited	●				
SFR	S01	Measures against AM radio noise - Pattern 1	●		Mod	●	
	S02	Measures against AM radio noise - Pattern 2	●		Mod	●	
	S03	Measures against AM radio noise - Pattern 3	●		Mod	●	
	S04	Measures against AM radio noise - Pattern 4	●		Mod	●	
	S05	Measures against AM radio noise - Pattern 5	●		Mod	●	
	S06	Measures against AM radio noise - Pattern 6	●		Mod	●	
	S07	Measures against AM radio noise - Pattern 7	●		Mod	●	
	S08	Measures against AM radio noise - Pattern 8	●		Mod	●	
SKM	S00	STREAKING correction OFF	●		Mod	●	
	S01	STREAKING correction mode 1	●		Mod	●	
	S02	STREAKING correction mode 2	●		Mod	●	
	S03	STREAKING correction mode 3	●		Mod	●	
	S04	STREAKING correction mode 4	●		Mod	●	
	S05	STREAKING correction mode 5	●		Mod	●	
	S06	STREAKING correction mode 6	●		Mod	●	
	S07	STREAKING correction mode 7	●		Mod	●	
	S08	STREAKING correction mode 8	●		Mod	●	
SMC	S01	Smooth clear drive OFF	●			●	
	S02	Smooth clear drive ON	●			●	
SML	***	Adjustment of the side mask level		●	Main	●	
SMM	S**	Setting of the effective area during streaking correction	●			●	
SN0	***	Setting of the serial No. 0 (panel)	●		Mod	●	
SN1	***	Setting of the serial No. 1 (panel)	●		Mod	●	
SN2	***	Setting of the serial No. 2 (panel)	●		Mod	●	
SN3	***	Setting of the serial No. 3 (panel)	●		Mod	●	
SN4	***	Setting of the serial No. 4 (panel)	●		Mod	●	
SQM	S01	VIDEO sequence setting	●				
	S02	PC sequence setting	●				
SSM	S01	SSCG OFF	●			●	
	S02	SSCG ON	●			●	
SZM	S00	Setting the screen size to Dot by Dot		●	Main		
	S01	Setting the screen size to 4 :3		●	Main		
	S02	Setting the screen size to FULL		●	Main		
	S03	Setting the screen size to ZOOM		●	Main		
	S04	Setting the screen size to CINEMA		●	Main		
	S05	Setting the screen size to WIDE		●	Main		
	S06	Setting the screen size to FULL 14 : 9		●	Main		
	S07	Setting the screen size to CINEMA 14 : 9		●	Main		
T							
THS	S00	Theater port interlock operation OFF	●				
	S01	Theater port interlock operation ON	●				
U							
UAJ		Determining the flag for the DIGITAL Assy adjustment in "not adjusted"	●				
UP*		To add *** to the adjustment value (*** = 000 to 999, designated by a function command)		●			

Command Name		Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
V							
VFQ	S01	Setting the frequency in Mask mode to VD-48 Hz	●		Mod	●	
	S02	Setting the frequency in Mask mode to VD-50 Hz	●		Mod	●	
	S03	Setting the frequency in Mask mode to VD-60 Hz	●		Mod	●	
	S05	Setting the frequency in Mask mode to VD-72 Hz	●		Mod	●	
	S06	Setting the frequency in Mask mode to VD-75 Hz	●		Mod	●	
	S13	Setting the frequency in Mask mode to PC-60 Hz	●		Mod	●	
	S22	Setting the frequency in Mask mode to VD-50 Hz (nonstandard)	●		Mod	●	
	S23	Setting the frequency in Mask mode to VD-60 Hz (nonstandard)	●		Mod	●	
	S25	Setting the frequency in Mask mode to VD-72 Hz (nonstandard)	●		Mod	●	
	S26	Setting the frequency in Mask mode to VD-75 Hz (nonstandard)	●		Mod	●	
VOF	***	Adjustment of the reference value of Vofs voltage	●			●	
VOL	UP*, DW*, ***	To adjust the volume (to be used in combination with UP*/DW*)		●			
VRP	***	Adjustment of the reference value of Vrst-p voltage	●			●	
VSU	***	Adjustment of the reference value of Vsus voltage	●			●	
VX1	***	Adjustment of the reference value of Vxpofs1 voltage	●		Mod	●	UP*/DN* is not effective
VX2	***	Adjustment of the reference value of Vxpofs2 voltage	●		Mod	●	UP*/DN* is not effective
VY1	***	Adjustment of the reference value of Vyknofs1, 2 voltage	●		Mod	●	UP*/DN* is not effective
VY3	***	Adjustment of the reference value of Vyknofs3 voltage	●		Mod	●	UP*/DN* is not effective
VY4	***	Adjustment of the reference value of Vyknofs4 voltage	●		Mod	●	UP*/DN* is not effective
W							
WBI	S00	Panel WB standard output mode: off	●			●	
	S01	Panel WB standard output mode: on	●			●	
X							
X1B	***	XSUS_1ST_B adjustment	●		Mod	●	UP*/DN* is not effective
X3B	***	XSUS_3RD_B adjustment	●		Mod	●	UP*/DN* is not effective
XSB	***	XSUS_B adjustment	●		Mod	●	UP*/DN* is not effective
Y							
Y1K	***	YSTL_1SF_KSB adjustment	●		Mod	●	UP*/DN* is not effective
Y1Z	***	YSTL_1SF_HZ adjustment	●		Mod	●	UP*/DN* is not effective
Y2B	***	YSUS_2ND_B adjustment	●		Mod	●	UP*/DN* is not effective
Y2K	***	YSTL_2SF_KSB adjustment	●		Mod	●	UP*/DN* is not effective
Y2Z	***	YSTL_2SF_HZ adjustment	●		Mod	●	UP*/DN* is not effective
YNK	***	YSTL_FMR_KSB adjustment	●		Mod	●	UP*/DN* is not effective
YNZ	***	YSTL_FMR_HZ adjustment	●		Mod	●	UP*/DN* is not effective
YTK	***	YSTL_KSB adjustment	●		Mod	●	UP*/DN* is not effective
YTZ	***	YSTL_HZ adjustment	●		Mod	●	UP*/DN* is not effective
YSB	***	Y-SUS-B adjustment	●		Mod	●	UP*/DN* is not effective
Z							
ZME		Initializing the video EEPROM data		●		●	
ZPR		Initializing the setting data to which no adjustment command is provided	●			●	

9.3 DETAILS OF EACH COMMANDS

9.3.1 QS1 (PANEL STATUS)

Model information and version information are returned.

Command Format	Effective Operation Modes	Function	Remarks
[QS1]	Every Time	Output of status	Return data: 3 (ECO) + 84 (DATA) + 2 (CS) = 89 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QS1 (Fixed)
1	Resolution/size	1 byte	6
2	Panel Generation	1 byte	8
3	Destination	1 byte	*
4	Grade	1 byte	*
5	Panel Product Form	1 byte	B
6	Boot version of Module microcomputer	3 byte	05F
7	Program version of Module microcomputer	8 byte	– 02F
8	Boot version of Sequence processor	3 byte	04F
9	Program version of Sequence processor	8 byte	– 01Y
10	Panel information	8 byte	G8_50F_
11	Reserved (*)	8 byte	********
12	, (comma)	1 byte	
13	MTB information 1 (Generation)	1 byte	8
14	MTB information 2 (Regional model)	1 byte	E
15	MTB information 3 (Grade)	1 byte	R
16	MTB information 4 (System Type)	1 byte	B
17	Common version for IF microcomputer	8 byte	– 06A
18	Boot version of IF microcomputer	4 byte	01A
19	Common version for Main microcomputer	8 byte	– 27E
20	Boot version of Main microcomputer	4 byte	– 03E
21	Common version for Multi-processor	8 byte	– 09H
22	Boot version of Multi-processor	4 byte	09A
23	Check Sum	2 byte	FF

13: MTB/MB Generation	
6	G6
7	G7
8	G8
9	G9
0	G10

14: Regional Model	
J	JP
A	US
E	EU
G	GE
C	CH
U	AU

15: MTB/MB Grade	
H	Elite/XDA/Step-upD
T	Step-upA/XG/XC/Regular (US)
B	Not used (For Future)
S	RegularD
R	RegularA

16: MTB/MB Product Form	
S	System model
B	One body model (SX)

1: Resolution/Inch Size	
3	1024*768-42
4	1024*768-43
5	1280*768-50
6	1365*768-50
7	1365*768-60
E	1920*1080-42
F	1920*1080-50
G	1920*1080-60

2: Panel Generation	
6	G6
7	G7
8	G8
9	G9
0	G10

3: Destination	
*	Commonness
A	US (Reserved)
E	EU (Reserved)
J	Japan (Reserved)

4: Grade	
*	Commonness
Z	Evaluation

5: Panel Product Form	
S	System model
B	All-in-one design TV
M	Monitor
D	Standard module
E	Simple module

10: Panel Information		
1 to 3rd byte	G8_	Generation information (+ under bar)
4 to 5th byte	42	42 inch
	50	50 inch
	60	60 inch
	**	PSIZE information and SQ_LSI version mismatching (version mismatching at SD)
6th byte	F	FHD
	X	XGA
	*	Model information and SQ_LSI version mismatching (version mismatching at SD)
7th byte	_	Under bar
8th byte	6	2nd PLANT
	4	1st PLANT
	*	PLANT information and SQ_LSI version mismatching (version mismatching at SD)
	‘	Others

9.3.2 QS2 (PANEL OPERATION DATA)

The command QS2 is for acquiring data on the panel's operational information.

Command Format	Effective Operation Modes	Function	Remarks
[QS2]	All operations	To acquire data on operations of the panel	Return data: 3 (ECO) + 34 (DATA) + 2 (CS) = 39 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QS2
1	Notification of mode shifting to STB	1 byte	1
2	Flag for adjustment of the main unit	1 byte	0
3	Flag for adjustment-data backup	1 byte	0
4	"1st PD" data	1 byte	0
5	"2nd PD" data	1 byte	0
6	Reserved	3 byte	***
7	Temperature data (TEMP 1)	3 byte	128
8	SD main data	1 byte	0
9	SD sub data	1 byte	0
10	Operation status induced by SD	1 byte	0
11	Reserved	3 byte	***
12	HOUR METER	8 byte	00000259
13	MASK indication	1 byte	0
14	Still picture detection	1 byte	0
15	SCAN protection detection	1 byte	0
16	Panel crack detection	1 byte	0
17	Address emergency detection	1 byte	0
18	Reserved	4 byte	****
CS		2 byte	4A

1: Notification of mode shifting to Standby	
P	During power ON
0	Entering Standby mode failed
1	Entering Standby mode succeeded

2: Adjustment of the main unit	
0	Adjustment completed
1	Adjustment not completed

3: Adjustment-data backup	
0	With backup data
1	No data (default)

4, 5: PD data	
0	No PD data
1	Not used
2	POWER
3	SCAN
4	SCN-5V
5	Y-DRV
6	Y-DCDC
7	Y-SUS
8	ADRS
9	X-DRV
A	X-DCDC
B	X-SUS
C	DIG-DCDC
D	Not used
E	Not used
F	UNKNOWN

8: SD main data	
0	No SD
1	SQ_LSI
2	MDU-IIC
3	RST2
4	TEMP

9-1: SD-Sub (SQ_LSI)	
0	No SD-Sub data
1	Communication error
2	Drive stop
3	BUSY
4	Version mismatching (H/S)
5	Version mismatching (M/S)

9-2: SD-Sub (IIC)	
0	No SD-Sub data
1	EEPROM
2	BACKUP
3	DAC1
4	DAC2

9-3: SD-Sub (TEMP)	
0	No SD-Sub data
1	TEMP1 high temperature
2	TEMP1 low temperature

10: Operation status induced by SD	
0	Normal
1	Relay-off completed
2	During warning indication

13: MASK indication	
0	MASK-OFF
1	MASK-ON

14 to 17: Details of power protection function	
0	Normal
1	At detection

9.3.3 QS3 (OTHER DATA ON THE PANEL)

The command QS3 is for acquiring data on operational information of the panel.

Command Format	Effective Operation Modes	Function	Remarks
[QS3]	All operations	To acquire data on operations of the panel	Return data: 3 (ECO) + 58 (DATA) + 2 (CS) = 63 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QS3
1	SERIAL	15 byte	- - - - - - - - - - - - - - -
2	HOUR METER	8 byte	00000000
3	TOTAL HR METER	8 byte	00000000
4	PON COUNTER	8 byte	00000000
5	TEMP1 acquisition (Temperature value)	5 byte	+23.5 (*1)
6	TEMP0 acquisition (Temperature value)	5 byte	+28.7 (*1)
7	MAX-TEMP1 acquisition (Temperature value)	5 byte	+78.3 (*1)
8	Reserved	4 byte	****
CS		2 byte	94

Note
(*1) : Centigrade scale

9.3.4 QAJ (PANEL ADJUSTMENT DATA)

The command QAJ is for acquiring the panel's factory-preset data.

Command Format	Effective Operation Modes	Function	Remarks
[QAJ]	All operations	To acquire data on operations of the panel	Return data: 3 (ECO) + 84 (DATA) + 2 (CS) = 89 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QAJ
1	V-SUS adjustment value	3 byte	128
2	Vysnofs adjustment value	3 byte	128
3	Vyprst adjustment value	3 byte	128
4	Vxpofs1 adjustment value	3 byte	128
5	Vxpofs2 adjustment value	3 byte	128
6	Vyknofs1,2 adjustment value	3 byte	128
7	Vyknofs3 adjustment value	3 byte	128
8	Vyknofs4 adjustment value	3 byte	128
9	R1K adjustment value	3 byte	128
10	R2K adjustment value	3 byte	128
11	Y1K adjustment value	3 byte	128
12	Y1Z adjustment value	3 byte	128
13	X1B adjustment value	3 byte	128
14	Y2B adjustment value	3 byte	128
15	X3B adjustment value	3 byte	128
16	YSB adjustment value	3 byte	128
17	XSB adjustment value	3 byte	128
18	YTK adjustment value	3 byte	128
19	YTZ adjustment value	3 byte	128
20	Y2K adjustment value	3 byte	128
21	Y2Z adjustment value	3 byte	128
22	YNK adjustment value	3 byte	128
23	YNZ adjustment value	3 byte	128
24	R-REVISE setting value	1 byte	0
25	G-REVISE setting value	1 byte	0
26	B-REVISE setting value	1 byte	0
27	ADDRESS 1, 2 setting value	2 byte	01
28	ADDRESS 3, 4 setting value	2 byte	13
29	ADDRESS 5, 6 setting value	2 byte	32
30	ADDRESS 7, 8 setting value	2 byte	30
31	Streaking correction	1 byte	1
32	AM radio countermeasure	1 byte	1
33	Reserved	2 byte	**
CS		2 byte	B7

31: Streaking correction	
0	OFF
n	n: 1 to 8 (Mode n)

32: AM radio countermeasure	
n	n: 1 to 8 (SUS frequency n)

9.3.5 QPW (VIDEO ADJUSTMENT DATA OF THE PANEL)

The command QPW is for acquiring the factory-preset data about the video of the panel.

Command Format	Effective Operation Modes	Function	Remarks
[QPW]	All operations	To acquire data on operations of the panel	Return data: 3 (ECO) + 40 (DATA) + 2 (CS) = 45 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QPW
1	Drive sequence	3 byte	60V
2	Standard/nonstandard	1 byte	S
3	Type of ABL/WB tables	2 byte	T2
4	ABL adjustment value	3 byte	128
5	R-HIGH adjustment value	3 byte	256
6	G-HIGH adjustment value	3 byte	256
7	B-HIGH adjustment value	3 byte	256
8	R-LOW adjustment value	3 byte	512
9	G-LOW adjustment value	3 byte	512
10	B-LOW adjustment value	3 byte	512
11	R gamma setting	2 byte	31
12	G gamma setting	2 byte	10
13	B gamma setting	2 byte	10
14	Streaking correction	1 byte	1
15	Center luminance correction	1 byte	0
16	Reserved	1 byte	*
17	WB interlocked with APL	1 byte	0
18	Transition of protective operations	1 byte	0
19	Reserved	2 byte	**
CS		2 byte	37

1: Drive sequence	
50V	Video 50 Hz
60V	Video 60 Hz
72V	Video 72 Hz
75V	Video 75 Hz
60P	PC 60 Hz

2: Standard/ nonstandard	
S	Standard
N	Nonstandard

3: Type of ABL/WB tables	
Tn	n: 1 to 4

11, 12, 13: RGB Gamma setting	
n	00 to 31

15: Center luminance correction	
0	OFF
1	ON
2	ON (interlocked with APL)

17: WB interlocked with APL	
0	OFF
1	ON
2	WB interlocked ON/γ OFF
3	WB interlocked OFF/γ ON

18: Transition of brightness by protective operations	
0	Upper limit state for brightness
1	Brightness being reduced
2	Lower limit state for brightness
3	Brightness being increased

9.3.6 QPM (PULSE METER VALUE)

The command QPM is for acquiring the accumulated number of pulses of the panel.

Command Format	Effective Operation Modes	Function	Remarks
[QPM]	All operations	To acquire data on operations of the panel	Return data: 3 (ECO) + 40 (DATA) + 2 (CS) = 45 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QPM
1	Pulse meter B 1	8 byte	00000000
2	Pulse meter B 2	8 byte	00000000
3	Pulse meter B 3	8 byte	00000000
4	Pulse meter B 4	8 byte	00000000
5	Pulse meter B 5	8 byte	00000000
CS		2 byte	E7

9.3.7 QPD (PD LOGS)

The command QPD is for acquiring data from the 8 latest power-down (PD) logs.

Command Format	Effective Operation Modes	Function	Remarks
[QPD]	All operations	To acquire data on the power-down logs	Return data: 3 (ECO) + 80 (DATA) + 2 (CS) = 85 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QPD
1	Latest "1st PD" data	1 byte	A
2	Latest "2nd PD" data	1 byte	2
3	Data from the hour meter for the latest PD	8 byte	00010020
4	Second latest "1st PD" data	1 byte	E
5	Second latest "2nd PD" data	1 byte	9
6	Data from the hour meter for the second latest PD	8 byte	00008523
7	Third latest "1st PD" data	1 byte	4
8	Third latest "2nd PD" data	1 byte	3
9	Data from the hour meter for the third latest PD	8 byte	00004335
10	Fourth latest "1st PD" data	1 byte	2
11	Fourth latest "2nd PD" data	1 byte	0
12	Data from the hour meter for the fourth latest PD	8 byte	00000945
13	Fifth latest "1st PD" data	1 byte	4
14	Fifth latest "2nd PD" data	1 byte	0
15	Data from the hour meter for the fifth latest PD	8 byte	00000715
16	Sixth latest "1st PD" data	1 byte	A
17	Sixth latest "2nd PD" data	1 byte	2
18	Data from the hour meter for the sixth latest PD	8 byte	00000552
19	Seventh latest "1st PD" data	1 byte	A
20	Seventh latest "2nd PD" data	1 byte	0
21	Data from the hour meter for the seventh latest PD	8 byte	00000213
22	Eighth latest "1st PD" data	1 byte	D
23	Eighth latest "2nd PD" data	1 byte	0
24	Data from the hour meter for the eighth latest PD	8 byte	000001A7
CS		2 byte	27

1, 2, 4, 5: PD data	
0	No PD
1	Not used
2	P-POWER
3	SCAN
4	SCN-5V
5	Y-DRIVE
6	Y-DCDC
7	Y-SUS
8	Address
9	X-DRIVE
A	X-DCDC
B	X-SUS
C	DIG-DCDC
D	Not used
E	Not used
F	UNKNOWN

9.3.8 QSD (SD LOGS)

The command QSD is for acquiring the data from the 8 latest shutdown (SD) logs.

Command Format	Effective Operation Modes	Function	Remarks
[QSD]	All operations	To acquire data on the shutdown logs	Return data: 3 (ECO) + 80 (DATA) + 2 (CS) = 85 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QSD
1	Latest SD data	1 byte	1
2	Latest SD subcategory data	1 byte	0
3	Data from the hour meter for the latest SD	8 byte	00752013
4	Second latest SD data	1 byte	5
5	Second latest SD subcategory data	1 byte	0
6	Data from the hour meter for the second latest SD	8 byte	00495204
7	Third latest SD data	1 byte	2
8	Third latest SD subcategory data	1 byte	3
9	Data from the hour meter for the third latest SD	8 byte	00100355
10	Fourth latest SD data	1 byte	2
11	Fourth latest SD subcategory data	1 byte	5
12	Data from the hour meter for the fourth latest SD	8 byte	00075620
13	Fifth latest SD data	1 byte	1
14	Fifth latest SD subcategory data	1 byte	0
15	Data from the hour meter for the fifth latest SD	8 byte	00000852
16	Sixth latest SD data	1 byte	2
17	Sixth latest SD subcategory data	1 byte	5
18	Data from the hour meter for the sixth latest SD	8 byte	000000451
19	Seventh latest SD data	1 byte	0
20	Seventh latest SD subcategory data	1 byte	0
21	Data from the hour meter for the seventh latest SD	8 byte	00000000
22	Eighth latest SD data	1 byte	0
23	Eighth latest SD subcategory data	1 byte	0
24	Data from the hour meter for the eighth latest SD	8 byte	00000000
CS		2 Byte	7D

• SD data

0	No SD
1	SQ_LSI
2	MDU-IIC
3	RST2
4	TEMP

• SD subcategory (SQ_LSI)

0	No SD-Sub data
1	Communication error
2	Drive stop
3	BUSY
4	Version mismatching (H/S)
5	Version mismatching (M/S)

• SD subcategory (MDU-IIC)

0	No SD-Sub data
1	EEPROM
2	BACKUP
3	DAC1
4	DAC2

• SD subcategory (TEMP)

0	No SD-Sub data
1	TEMP1 (high temperature)
2	TEMP1 (low temperature)

9.3.9 QSE (DESTINATION PECULIAR INFORMATION)

Induce it peculiar, individual information is acquired.

Command Format	Effective Operation Modes	Function	Remarks
[QSE]	Every time	Output of status	

Order	Part	Data Arrangement	Data Length	Output Example
0	–	Received Command name	3 byte	QSE
1		Reserved	4 byte	****
2		DTV Hardware Version	4 byte	0345
3		USER PASSWORD	4 byte	1234
4	–	Check Sum	2 byte	03

9.3.10 QMT (TEMPERATURE / FAN ROTATION / ROOM LIGHT SENSOR)

Temperature information (TEMP2) / FAN rotation state / Room light sensor information on the MTB side is returned.

Command Format	Effective Operation Modes	Function	Remarks
[QMT]	Every time	Output of status	A/D value of MTB-side's temperature/FAN rotating status

Order	Part	Data Arrangement	Data Length	Output Example
0	–	Received Command name	3 byte	QMT
1	MTB	A/D value of MTB-side temperature	3 byte	267
2		MTB-side FAN rotating speed (0: STOP, 1: LOW, 2: HIGH)	1 byte	1
3		A/D value of room light sensor	3 byte	009
4		Level of room light sensor (Value: 1 to 5)	1 byte	5

9.3.11 QNG (SHUTDOWN INFORMATION OF MTB)

MTB side's shutdown information is acquired.

Command Format	Effective Operation Modes	Function	Remarks
[QNG]	Every time	Output of status	

Order	Part	Data Arrangement	Data Length	Output Example
0	–	Received Command name	3 byte	QNG
1	MTB	1st latest NG No.	1 byte	0
2		Subcategory No. for the 1st latest NG.	1 byte	0
3		MTB hour meter for the 1st latest NG.	7 byte	0000000
4		Reserved	3 byte	Fixed on 000
5		2nd latest NG No.	1 byte	0
6		Subcategory No. for the 2nd latest NG.	1 byte	0
7		MTB hour meter for the 2nd latest NG.	7 byte	0000000
8		Reserved	3 byte	Fixed on 000
9		3rd latest NG No.	1 byte	0
10		Subcategory No. for the 3rd latest NG.	1 byte	0
11		MTB hour meter for the 3rd latest NG.	7 byte	0000000
12		Reserved	3 byte	Fixed on 000
:		:	:	
29		8th latest NG No.	1 byte	0
30		Subcategory No. for the 8th latest NG.	1 byte	0
31		MTB hour meter for the 8th latest NG.	7 byte	0000000
32		Reserved	3 byte	Fixed on 000
33	–	Check Sum	2 byte	00

< SD Information No. >

Frequency *	Part	Part	Remarks (Operation)
5	MTB part	Shutdown signal from audio amp. / short-circuit of speaker terminal	Shutdown after 30 seconds warning
6		Failure of communication with Module microcomputer	Immediately Shutdown
7		3-wire serial communication of Main microcomputer	Go to No. 7 Subcategory Information
8		IIC communication failure of MTB side	Go to No. 8 Subcategory Information
9		Communication failure of Main microcomputer	Immediately Shutdown
10(A)		Failure of FAN	Go to No. 10 Subcategory Information
11(B)		Abnormally in high temperature	Shutdown after 30 seconds warning
12(C)		Failure of Digital Tuner	Go to No. 12 Subcategory Information
13(D)		Failure of Power Supply at MTB side	Go to No. 13 Subcategory Information
15(F)		Failure of Main EEPROM	Immediately Shutdown

*: Indicates the frequency of Blue LED flashing when the shutdown is occurred.

< No. 7 Subcategory Information on "Failure in 3-wire serial communication of Main microcomputer" >

Value	Shutdown Factor	Remarks (Operation)
1	Communication error of IF microcomputer	Shutdown
2	Communication error of sequence processor	Shutdown

< No. 8 Subcategory Information on "Failure in IIC communication of MTB side" >

Value	Shutdown Factor	Remarks (Operation)
1	Tuner 1	Shutdown
2	MSP/MAP	Shutdown
3	AV Switch	Shutdown
4	RGB Switch	Shutdown
5	VDEC	Shutdown
6	VDEC-SDRAM	Shutdown
7	AD/PLL	Shutdown
8	HDMI	Shutdown
D	COFDEM	Shutdown

< No. 10 Subcategory Information on "Abnormally in FAN" >

Value	Shutdown Factor	Remarks (Operation)
1	FAN 1	Shutdown
2	FAN 2 (FHD only)	Shutdown

< No. 12 Subcategory Information on "Failure in Digital Tuner" >

Value	Shutdown Factor	Remarks (Operation)
1	DTV starting failure	Communication stop
2	DTV Antenna	Warning indication

< No. 13 Subcategory Information on "Failure in Power supply at MTB side" >

Value	Shutdown Factor	Remarks (Operation)
1	RST 2	Shutdown
2	RST 4	Shutdown

9.3.12 QSI (INPUT SIGNAL DATA)

The command QSI is for acquiring all data on input video signals.

Command Format	Effective Operation Modes	Function	Remarks
[QSI]	All operations	To acquire all data on input video signals	Return data: 3 (ECO) + 66 (DATA) + 2 (CS) = 71 Byte

Data Arrangement		Data Length	Output Example
ECO		3 Byte	QSI
1	Type of drive sequence	3 Byte	60V
2	Standard/nonstandard	1 Byte	S
3	Type of ABL/WB tables	2 Byte	T1
4	Total value of PCN	4 Byte	0256
5	Total value of PRH	4 Byte	0256
6	Total value of PGH	4 Byte	0256
7	Total value of PBH	4 Byte	0256
8	Total value of PBR	4 Byte	0512
9	Total value of PRL	4 Byte	0512
10	Total value of PGL	4 Byte	0512
11	Total value of PBL	4 Byte	0512
12	Total value of ABL	3 Byte	128
13	Detection of V frequency	4 Byte	6002
14	Reserved	1 Byte	*
15	Reserved	3 Byte	***
16	Obtained APL data	4 Byte	1023
17	Number of SUS pulses	4 Byte	0457
18	Result of detection of still picture	1 Byte	1
19	Result of detection of cracking in the panel	1 Byte	1
20	Result of detection for scanning protection	1 Byte	1
21	Result of detection for external protection	1 Byte	1
22	Transition of protection operation	1 Byte	0
23	Reserved	4 Byte	****
CS		2 Byte	27

9.3.13 DRV (PANEL DRIVE-POWER ON / OFF)

Drive ON/OFF: ON/OFF control of panel drive-power system

Command Format	Effective Operation Modes	Function	Remarks
[DRV+S00]	Every time	DRIVE OFF	At standby mode, when 10 seconds passed after issuing [DRV+S00], command becomes invalid.
[DRV+S01]	Every time	DRIVE ON (default)	

Once the DRIVE OFF command is accepted, DRIVE OFF cannot be canceled by pressing the DRIVE OFF key again or by turning the unit off then back on with the STANDBY OFF/ON key.
To cancel DRIVE OFF, restart the unit by unplugging then again plugging in the power cord.

9.3.14 FAY / FAN (ADJ. COMMANDS PERMISSION / PROHIBITION)

The commands FAY/FAN are for prohibiting/permitting panel/MTB-adjustment commands.

Command Format	Operation		Remarks
	Effective Operation Modes	Control	
[FAY]	Normal operation mode while the power is on	Adjustment command is valid.	For details, refer to the section “6.1.3 FUNCTIONS WHEN RNTERING THE SERVICE FACTORY MODE.”
[FAN]	During FAY	Adjustment command is invalid.	

9.3.15 FAJ / UAJ / CBU / BCP (BACKUP FUNCTION FOR ADJUSTMENT VALUE)

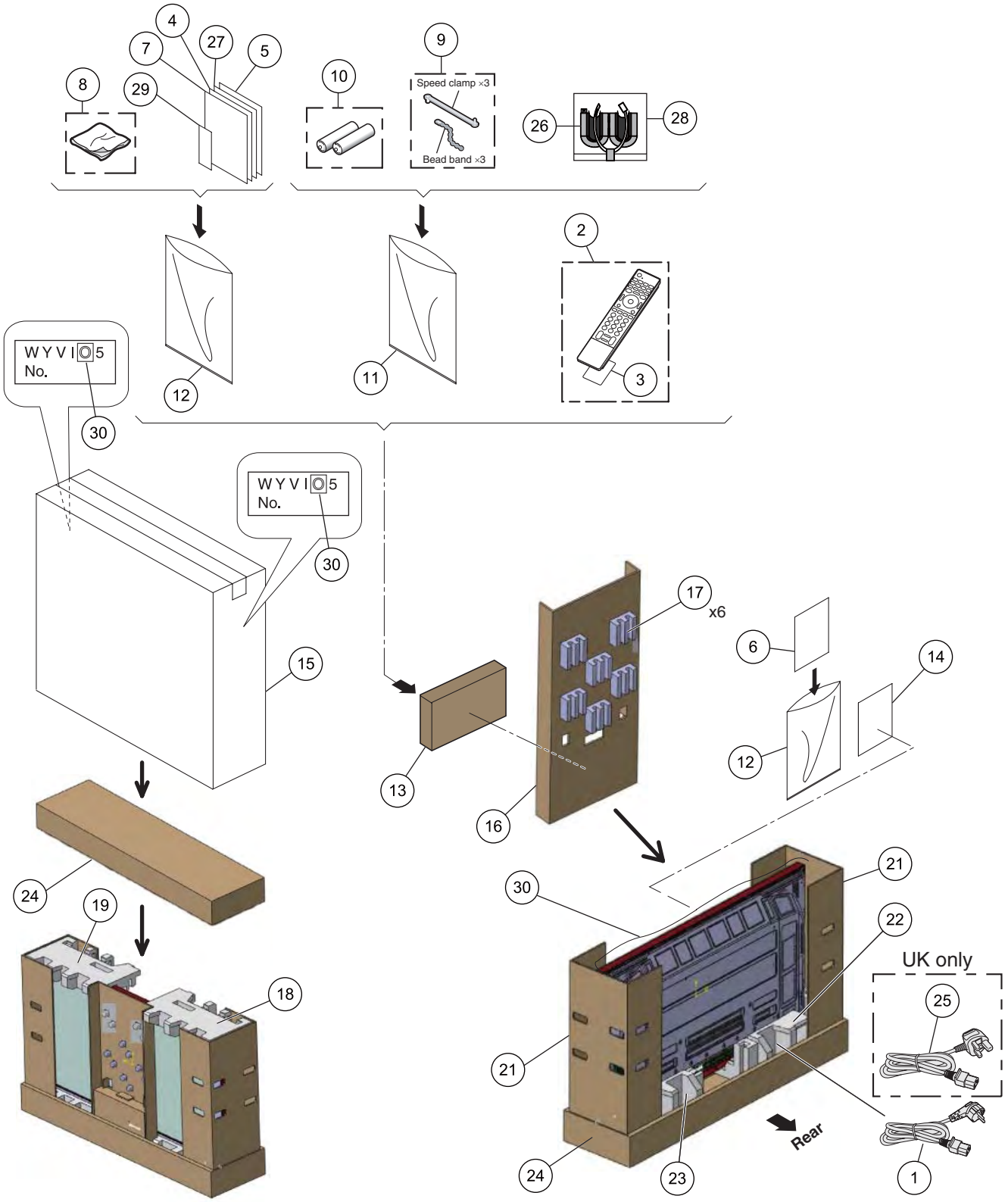
When the DIGITAL Assy is to be replaced, adjustment values can be copied from the backup EEPROM to the EEPROM of the Assy for service.

Command Format	Operation			Remarks
	Effective Operation Modes	Control		
[FAJ]	During FAY	To make the flag setting that indicating that adjustment of the panel unit has been completed	Writing 00 to the 4 k byte ROM and copying to the 2 k byte ROM	This takes at least 350 mS.
[UAJ]		To make the flag setting that indicating that adjustment of the main unit has not been completed	Writing F0 to the 4 k byte ROM	
[CBU]		To make the flag setting that indicating that backup data have not been copied	Writing F0 to the 2 k byte ROM	The backup ROM is initialized.
[BCP]		To copy Digital backup data to EEPROM	Copying backup data	

10. EXPLODED VIEWS AND PARTS LIST

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screws adjacent to ▼ mark on product are used for disassembly.*
- *For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions, apply as you think it appropriate.)*

10.1 PACKING SECTION



PACKING SECTION PARTS LIST

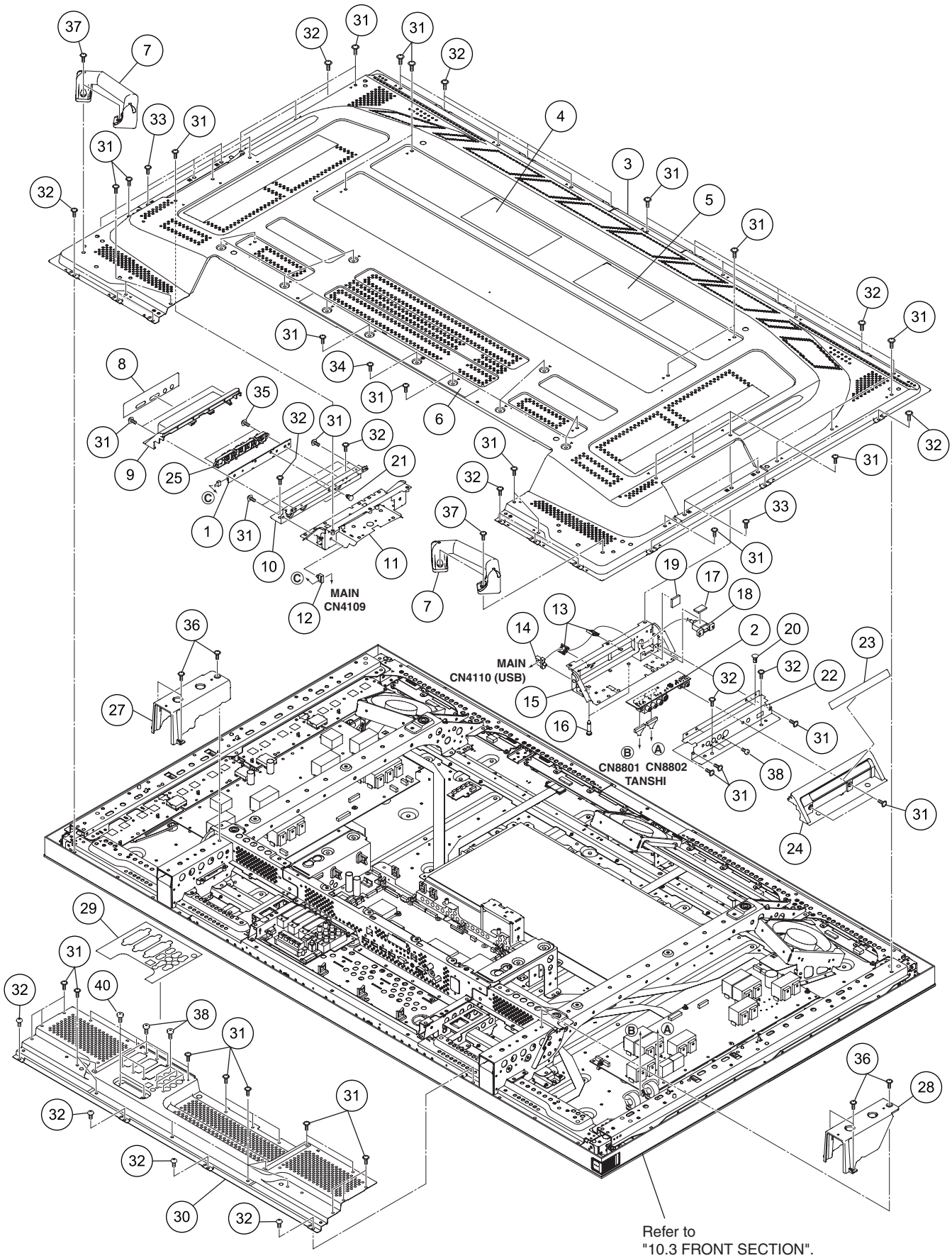
Mark	No.	Description	Part No.
⚠	1	Power Cord (2 m)	ADG1214
	2	Remote Control Unit	AXD1551
	3	Battery Cover	AZN2626
	4	Operating Instructions (English, French, German)	ARE1474
	5	After Image Caution	ARM1350
NSP	6	Warranty	ARY1204
	7	Cleaning Caution (11L)	ARM1283
	8	Cleaning Cloth	AED1285
	9	Binder Assy	AEC1908
NSP	10	Dry Cell Battery (R6, AA)	VEM1031
	11	Literature Bag	AHG1303
	12	Vinyl Bag	AHG1340
	13	Accessory Box	AHC1083
	14	Caution Card	ARM1232
	15	Upper Carton	See Contrast table (2)
	16	Reinforce Carton (608)	AHC1106
	17	Center Pad	AHA2687
	18	Pad (608 T-R)	AHA2647
	19	Pad (608 T-L)	AHA2646
	20	Mirror Mat	AHG1385
	21	Reinforce Carton LR	AHC1098
	22	Pad (608 B-L)	AHA2648
	23	Pad (608 B-R)	AHA2649
	24	Under Carton (608)	AHD3634
	25	Cord	ADG1223
	26	Ferrite Core	ATX1039
	27	Operating Instructions (Italian, Dutch, Spanish)	ARC1585
	28	Vinyl Bag	AHG1337
	29	Label C (ESD)	AAX3504
	30	Destination Label O	AAX3446

(2) CONTRAST TABLE

PDP-LX6080D/WYVI5 and PDP-LX608D/WYVI5 are constructed the same except for the following:

Mark	No.	Symbol and Description	PDP-LX6080D /WYVI5	PDP-LX608D /WYVI5
	15	Upper Carton (6080LX)	AHD3631	Not used
	15	Upper Carton (608LX)	Not used	AHD3582

10.2 REAR SECTION



REAR SECTION PARTS LIST

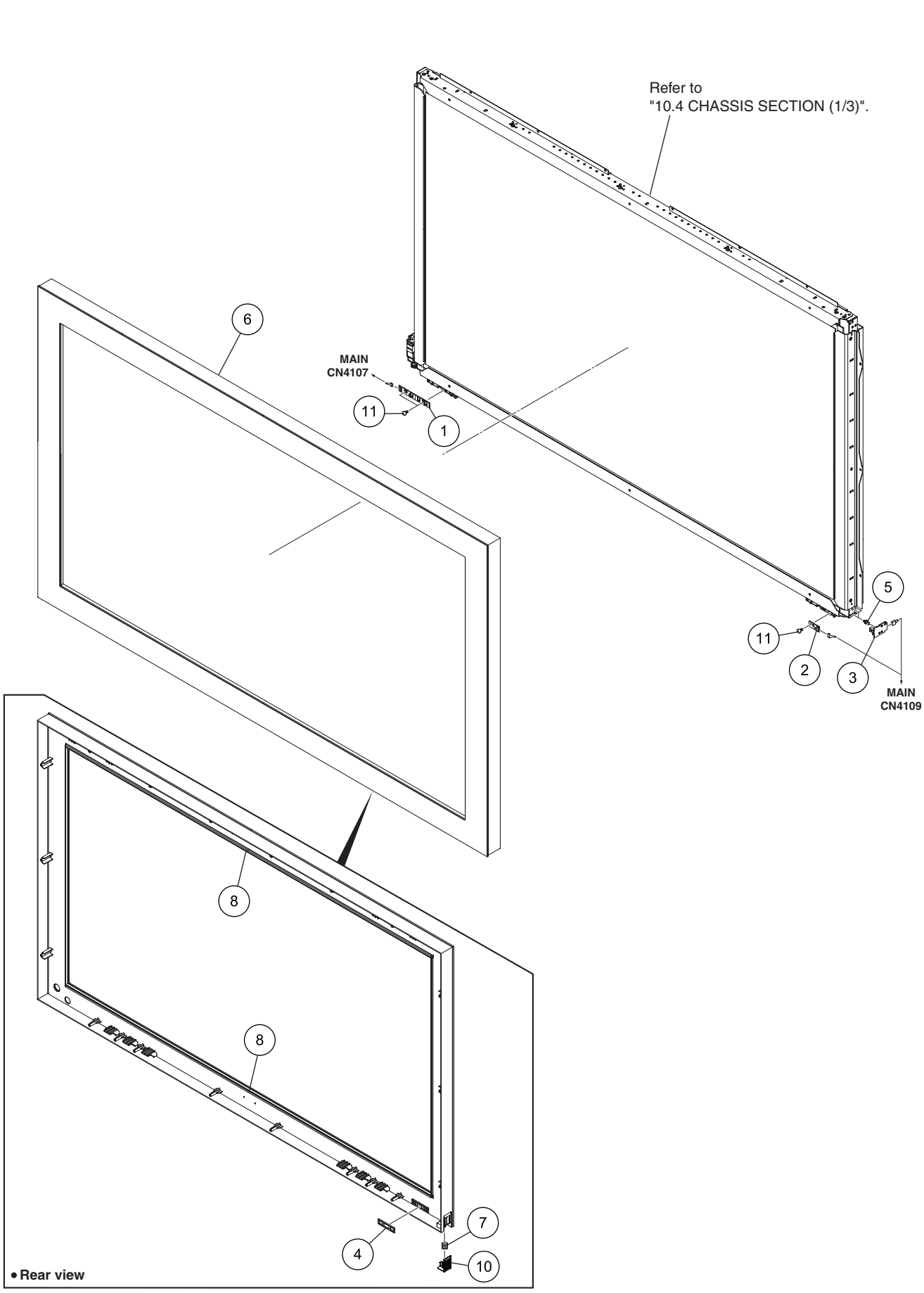
Mark	No.	Description	Part No.
	1	SIDE KEY Assy	AWW1286
	2	SIDE IO Assy	AWW1253
	3	Rear Case (608)	ANE1664
NSP	4	Name Label	See Contrast table (2)
	5	Caution Label (E)	AAX3546
	6	Label A (ED)	AAX3480
	7	Handle	AMR3564
	8	Function Button Sheet (E)	AAK2896
	9	Function Button Panel	AMB2906
	10	Function Button Base	ANG2923
	11	Function Button Shield	ANK1835
	12	Wire Clip	AEC1948
	13	Reuse Wire Saddle	AEC1945
	14	Reuse Wire Saddle	AEC2118
	15	Side Input Shield	ANK1834
	16	Spacer	AEC1288
	17	USB Spacer A	AED1317
	18	USB Cable (J301)	ADF1034
⚠	19	Gasket (J-type)	ANK1956
	20	PCB Spacer	AEC1570
	21	Locking Card Spacer	AEC2019
	22	Side Input Panel (8ES)	ANC2460
	23	Input Cover Label 8ES	AAX3510
	24	Side Input Cover	AMB2911
	25	Function Button (E)	AAC1565
	26	•••••	
	27	Sub Frame Cover L	AMR3586
	28	Sub Frame Cover R	AMR3587
	29	Label B50 (ESD)	AAX3543
	30	Under Cover (608ES)	ANC2435
	31	Screw	AMZ30P060FTB
	32	Screw	APZ30P100FTB
	33	Screw	APZ40P100FTB
	34	Screw	ABA1341
	35	Screw	AMZ30P080FTC
	36	Screw	PMB30P100FTB
	37	Screw	PMB40P140FTB
	38	Screw	BPZ30P080FTB
	39	Screw	BBZ30P060FTB
	40	Screw	BPZ30P100FTB

(2) CONTRAST TABLE

PDP-LX6080D/WYVI5 and PDP-LX608D/WYVI5 are constructed the same except for the following:

Mark	No.	Symbol and Description	PDP-LX6080D /WYVI5	PDP-LX608D /WYVI5
NSP	4	Name Label (6080LX)	AAL2986	Not used
NSP	4	Name Label (608LX)	Not used	AAL2933

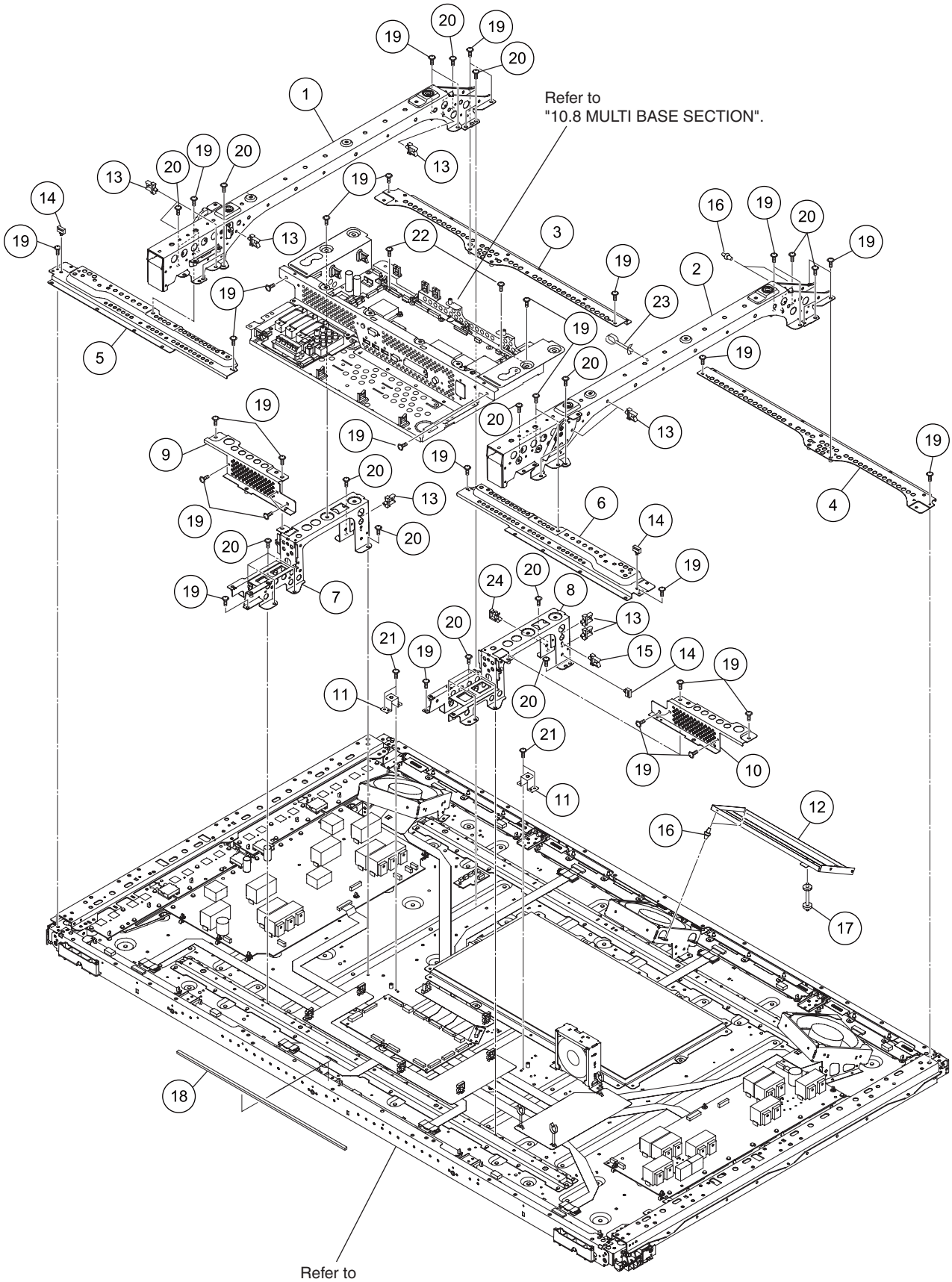
10.3 FRONT SECTION



FRONT SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	42/60LED Assy	AWW1276
	2	FHD RLS Assy	AWW1292
	3	FHD IR Assy	AWW1289
	4	Blind Cushion	AEB1449
	5	PCB Spacer	AEC1947
	6	1..Front Case Assy (608EU)	AMB3037
	7	2..Coil Spring	ABH1126
NSP	8	2..Panel Cushion H	AED1318
	9	•••••	
	10	2..Power Button	AAD4151
	11	Screw	BPZ30P080FTB

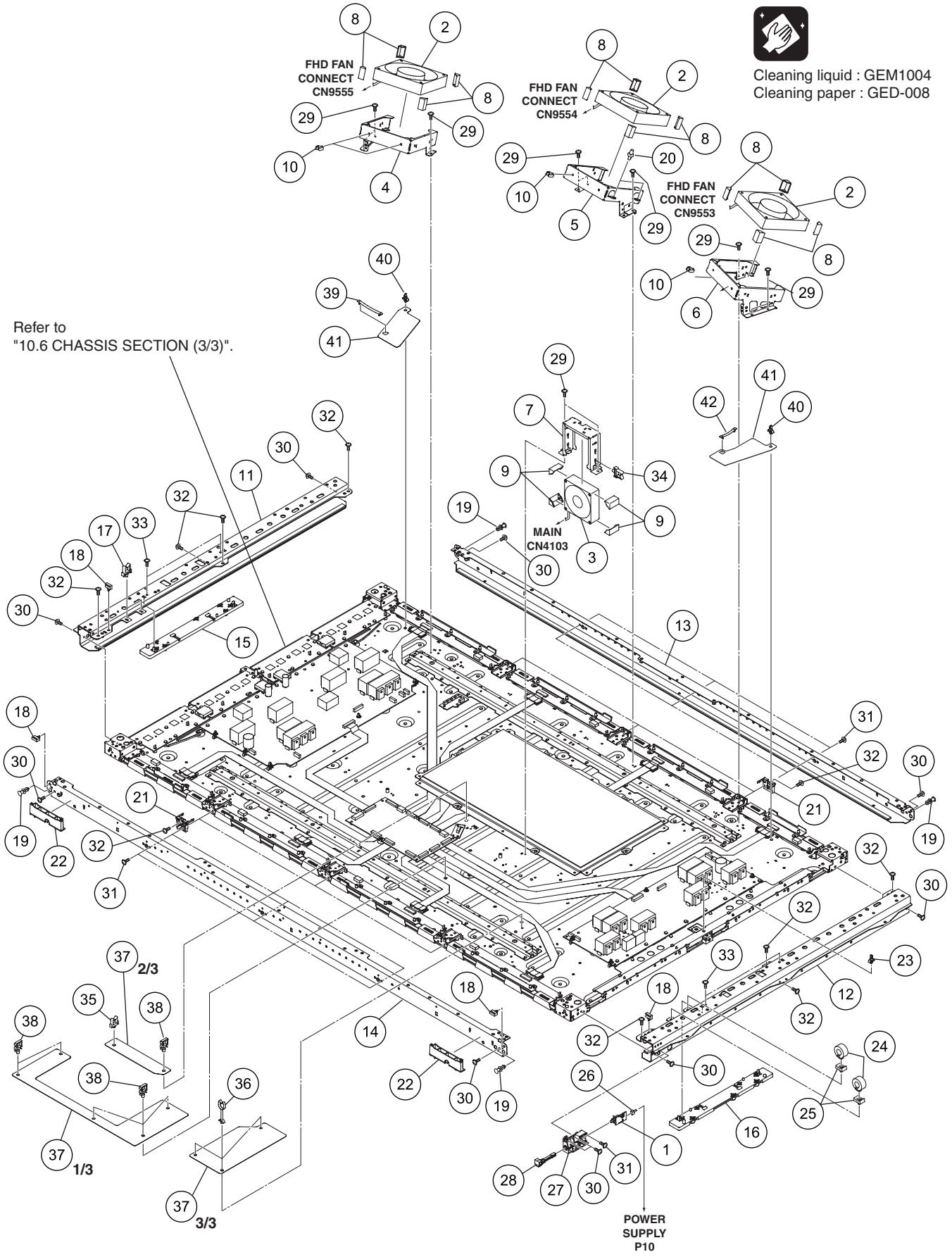
10.4 CHASSIS SECTION (1/3)



CHASSIS SECTION (1/3) PARTS LIST

Mark	No.	Description	Part No.
	1	Sub Frame L Assy 607	ANA1966
	2	Sub Frame R Assy 607	ANA1965
	3	Upper Support L	ANG3052
	4	Upper Support R	ANG3053
	5	Under Support Assy L	ANA2123
	6	Under Support Assy R	ANA2124
	7	Multi Base Frame L	ANA1970
	8	Multi Base Frame R	ANA1969
	9	Terminal Panel L 60	ANC2420
	10	Terminal Panel R 60	ANC2421
	11	Multi Base Holder	ANG2937
	12	Protector Sheet	AMR3713
	13	Reuse Wire Saddle	AEC2118
	14	Wire Clip	AEC1948
	15	Wire Saddle	AEC1745
	16	PCB Spacer	AEC1947
	17	PCB Spacer (44.8)	AEC2121
⚠	18	Gasket MTB	ANK1879
	19	Screw	AMZ30P060FTB
	20	Screw	TBZ40P080FTB
	21	Screw	ABA1351
	22	Screw	ABA1364
	23	Reuse HL 28	AEC2119
	24	Reuse Clamp	AEC2129

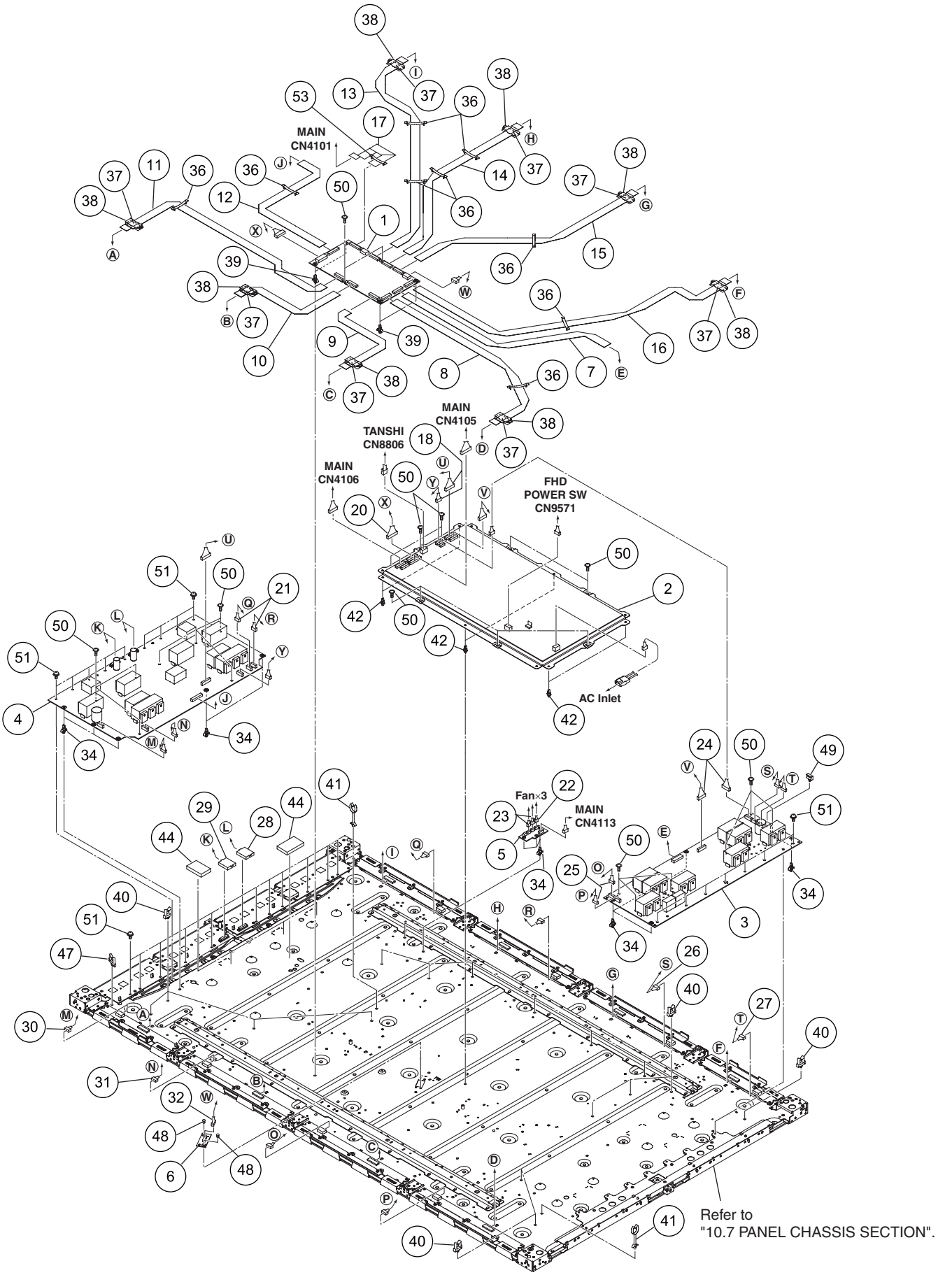
10.5 CHASSIS SECTION (2/3)



CHASSIS SECTION (2/3) PARTS LIST

Mark	No.	Description	Part No.
	1	FHD POWER SW Assy	AWW1293
⚠	2	DC Fan Motor 120 x 25L	AXM1063
⚠	3	Fan Motor 80 x 25L	AXM1057
	4	Fan Holder 120L	ANG3059
	5	Fan Holder 120C	ANG3072
	6	Fan Holder 120R	ANG3073
	7	Fan Holder	ANG2833
	8	Floating Rubber 120	AEB1459
	9	Floating Rubber 80	AEB1427
	10	Mini Clamp	AEC1967
	11	Front Chassis VL Assy 60	ANA2065
	12	Front Chassis VR Assy 60	ANA2066
	13	Front Chassis H Assy T	ANA2063
	14	Front Chassis H Assy B	ANA2064
	15	Function Button Holder	AMR3561
	16	Side Input Holder	AMR3562
	17	Reuse Wire Saddle	AEC2100
	18	Wire Clip	AEC1948
	19	Rivet	AMR1066
	20	PCB Spacer	AEC1947
	21	Front Chassis H Guide	AMR3684
	22	Front Case Support	AMR3745
	23	PCB Spacer	AEC1819
	24	Ferrite Core (L1, L2)	ATX1044
	25	Ferrite Core Holder	AEC1818
	26	Housing Wire (J103)	ADX3570
	27	Switch Holder	AMR3692
	28	Switch Pin	AMR3691
	29	Screw	ABA1351
	30	Screw	AMZ30P080FTC
	31	Screw	APZ30P100FTB
	32	Screw	AMZ30P060FTB
	33	Screw	BPZ30P080FTB
	34	Reuse Wire Saddle	AEC1945
	35	Reuse Wire Saddle	AEC2118
	36	Reuse HL 28	AEC2119
	37	Digital Cover Sheet	AMR3736
	38	Reuse Clamp	AEC2129
	39	Flat Clamp 60	AEC2104
	40	PCB Spacer (Reuse)	AEC2087
	41	Fan Cover Sheet	AMR3739
	42	Flat Clamp	AEC1879

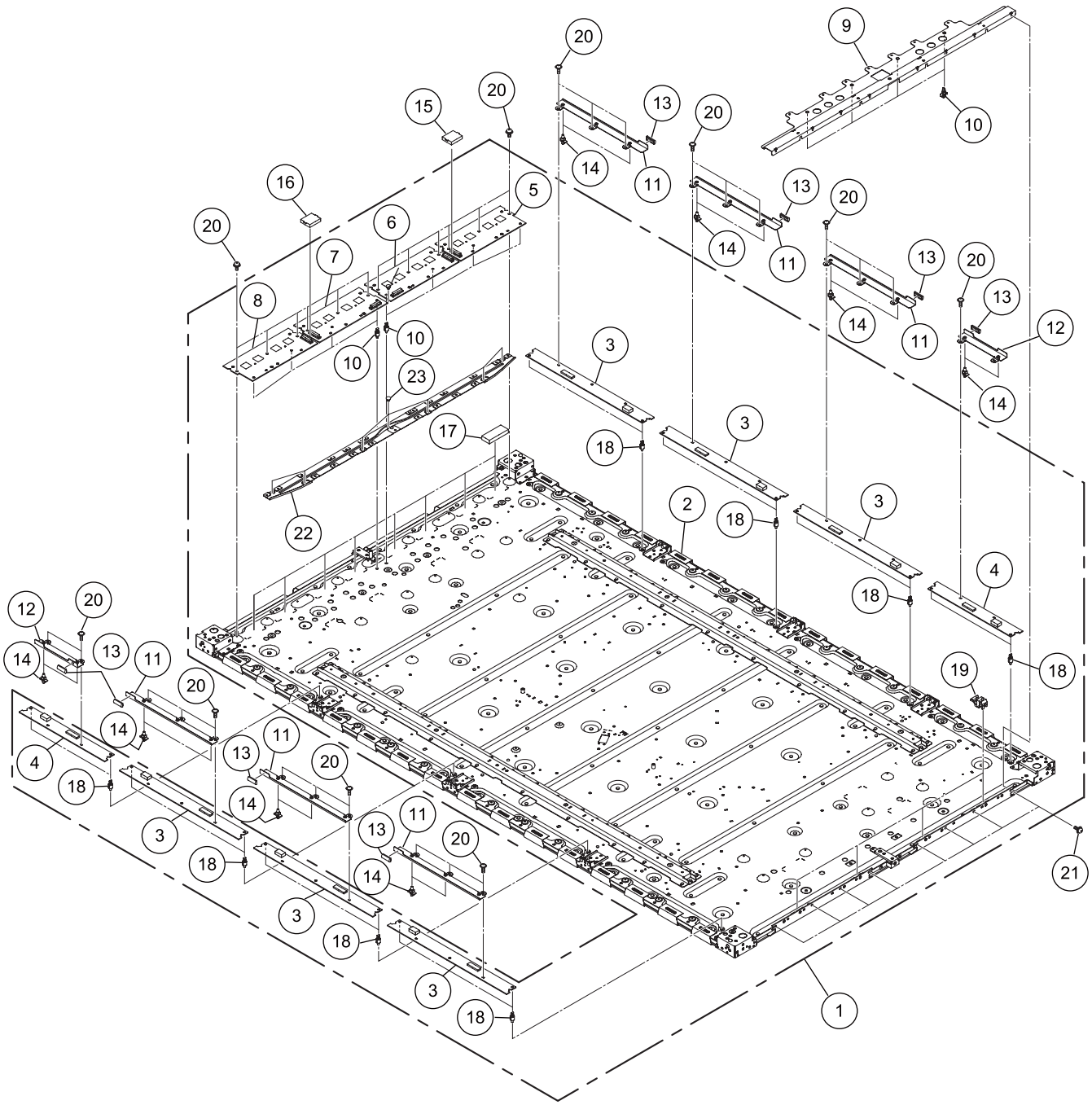
10.6 CHASSIS SECTION (3/3)



CHASSIS SECTION (3/3) PARTS LIST

Mark	No.	Description	Part No.
	1	60F DIGITAL Assy	AWW1308
⚠	2	POWER SUPPLY Unit	AXY1169
	3	60F X DRIVE Assy	AWV2505
	4	60F Y DRIVE Assy	AWV2506
	5	FHD FAN CONNECT Assy	AWW1290
	6	PANEL SENSOR Assy	AWW1309
	7	Flexible Cable (J201)	ADD1509
	8	Flexible Cable (J202)	ADD1510
	9	Flexible Cable (J203)	ADD1511
	10	Flexible Cable (J204)	ADD1512
	11	Flexible Cable (J205)	ADD1513
	12	Flexible Cable (J206)	ADD1514
	13	Flexible Cable (J207)	ADD1515
	14	Flexible Cable (J208)	ADD1516
	15	Flexible Cable (J209)	ADD1517
	16	Flexible Cable (J210)	ADD1518
	17	Flexible Cable (J211)	ADD1508
	18	9P&7P Housing Wire (J101)	ADX3568
	19	•••••	
	20	14P Housing Wire (J104)	ADX3571
	21	6P&6P Housing Wire (J111)	ADX3578
	22	3P Housing Wire (J123)	ADX3585
	23	3P&3P Housing Wire (J124)	ADX3586
	24	8P&8P Housing Wire (J102)	ADX3569
	25	6P&6P Housing Wire (J108)	ADX3575
	26	6P Housing Wire (J112)	ADX3579
	27	6P Housing Wire (J113)	ADX3580
	28	3 Piece Connector 40P (CN103)	AKM1384
	29	3 Piece Connector 40P (CN104)	AKM1384
	30	6P Housing Wire (J110)	ADX3577
	31	6P Housing Wire (J109)	ADX3576
	32	5P Housing Wire (J105)	ADX3572
	33	•••••	
	34	PCB Spacer (Reuse)	AEC2087
	35	•••••	
	36	Flat Clamp	AEC1879
	37	Ferrite Core (F1 - F8)	ATX1048
	38	Ferrite Clamp	AEC1986
	39	PCB Spacer (4.5)	AEC2115
	40	Reuse Wire Saddle	AEC2118
	41	Reuse HL 28	AEC2119
	42	PCB Spacer	AEC1947
	43	•••••	
	44	Drive Silicone	AEH1139
	45	•••••	
	46	•••••	
	47	Reuse Space Clamp	AEC2131
	48	Nylon Rivet	AEC1671
	49	Wire Clip	AEC1948
	50	Screw	ABA1351
	51	Screw	ABA1364
	52	•••••	
	53	Flat Clamp	AEC1858

10.7 PANEL CHASSIS SECTION



PANEL CHASSIS SECTION PARTS LIST

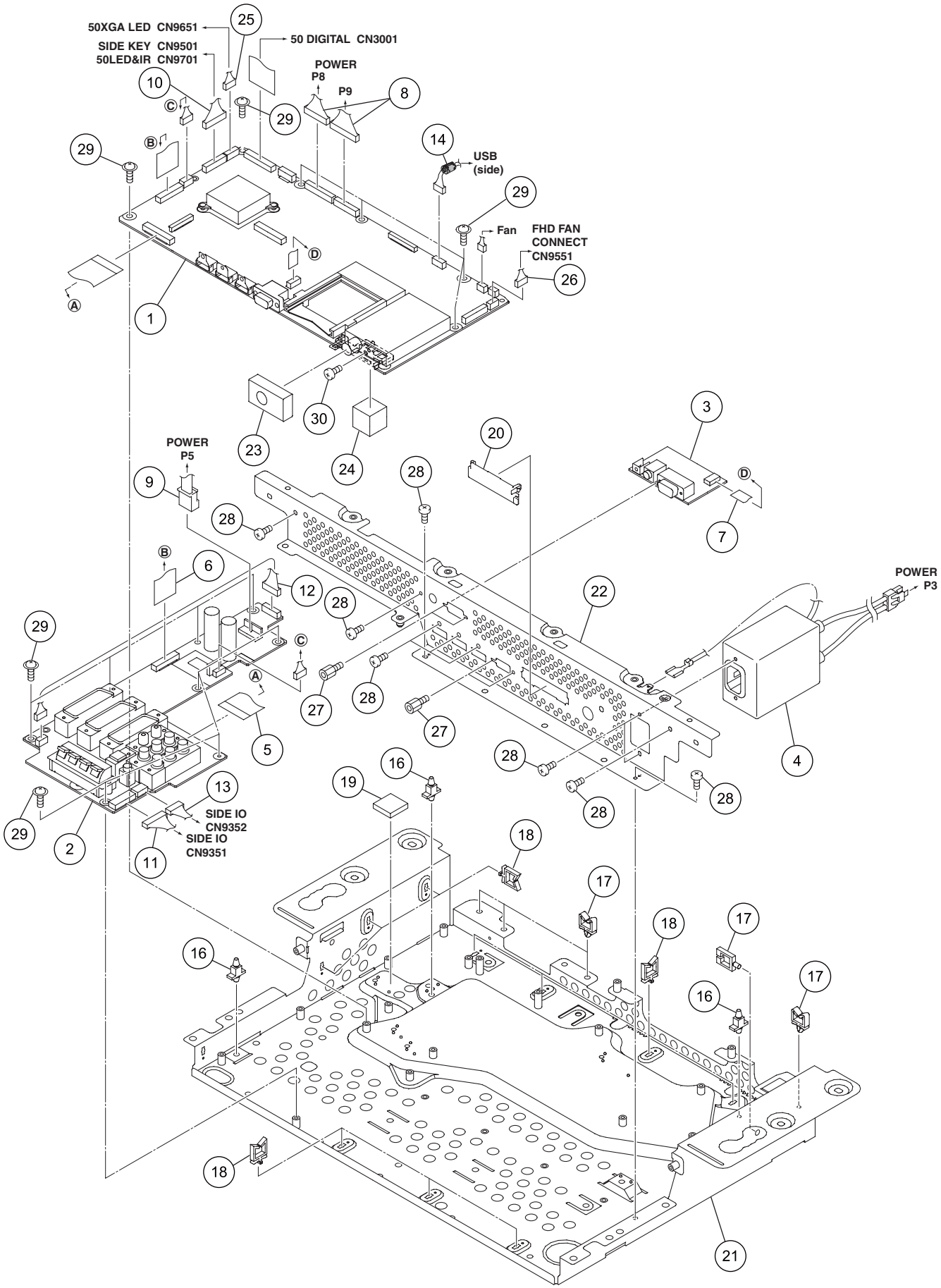
Mark	No.	Description	Part No.
NSP	1	Panel Chassis Assy	See Contrast table (2)
NSP	2	Plasma Panel Assy	See Contrast table (2)
NSP	3	60F ADDRESS L Assy	AWW1317
NSP	4	60F ADDRESS S Assy	AWW1318
NSP	5	60F SCAN A Assy	AWW1319
NSP	6	60F SCAN B Assy	AWW1320
NSP	7	60F SCAN C Assy	AWW1321
NSP	8	60F SCAN D Assy	AWW1322
	9	Conductive Plate X	ANG3057
	10	PCB Spacer (Reuse)	AEC2087
⚠NSP	11	Address Plate A	ANG3076
⚠NSP	12	Address Plate B	ANG3077
⚠	13	Address Gasket	ANK1947
	14	PCB Spacer (Reuse)	AEC2122
	15	3 Piece Connector 40P (CN101)	AKM1384
	16	3 Piece Connector 40P (CN102)	AKM1384
	17	Scan Silicone	AEH1135
	18	PCB Spacer	AEC1947
	19	Conductive Plate Holder	AMR3446
	20	Screw	ABA1351
	21	Screw	ABA1366
	22	Conductive Plate Y	ANG3058
	23	Spacer (4.5)	AEC2116

(2) CONTRAST TABLE

PDP-LX6080D/WYVI5 and PDP-LX608D/WYVI5 are constructed the same except for the following:

Mark	No.	Symbol and Description	PDP-LX6080D /WYVI5	PDP-LX608D /WYVI5
NSP	1	Panel Chassis (608F) Assy	AWU1238	Not used
NSP	1	Panel Chassis (608FE) Assy	Not used	AWU1258
NSP	2	Plasma Panel (60F) Assy	AWU1236	Not used
NSP	2	Plasma Panel (60FE) Assy	Not used	AWU1257

10.8 MULTI BASE SECTION



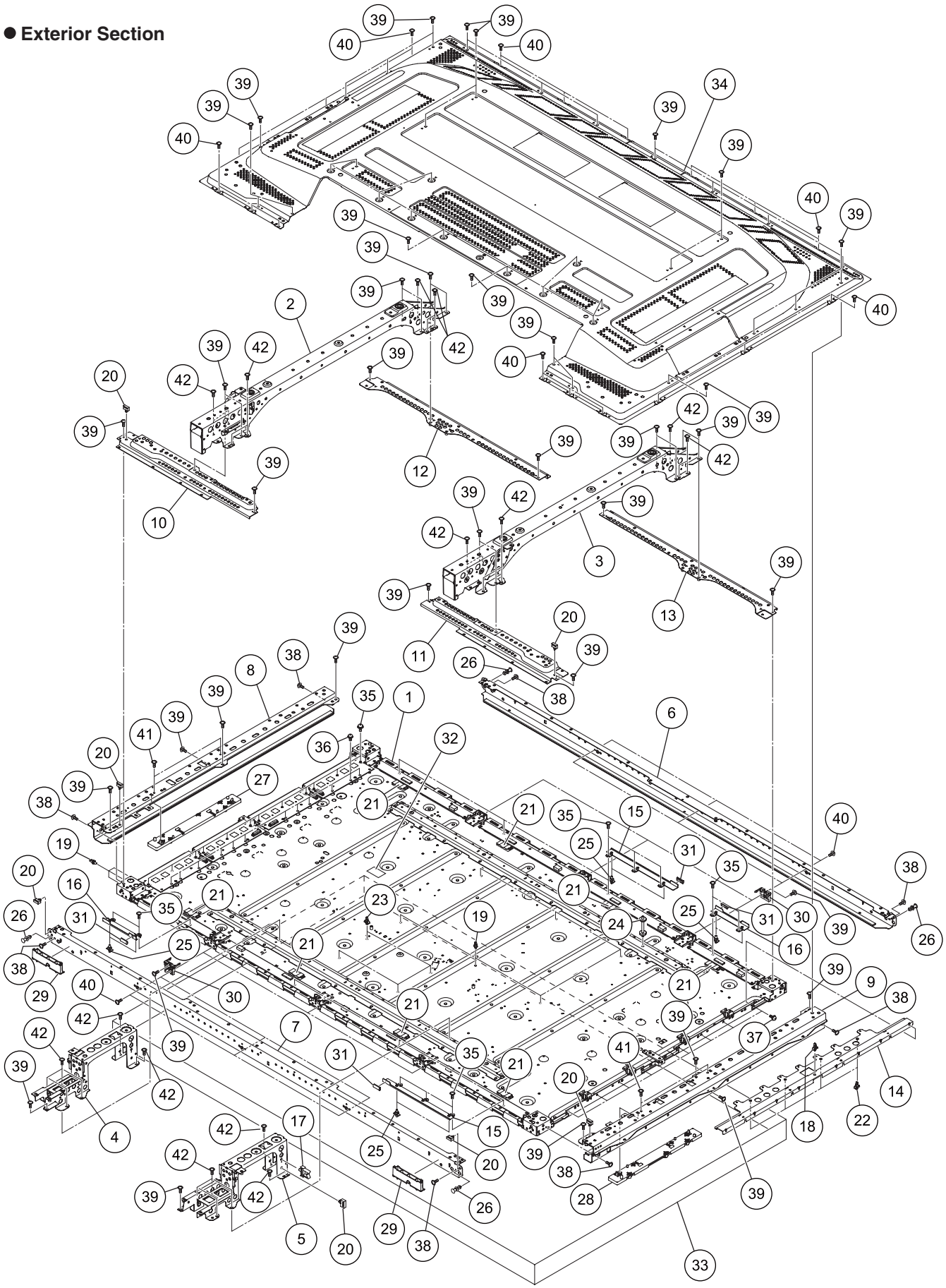
MULTI BASE SECTION PARTS LIST

Mark	No.	Description	Part No.
⚠	1	MAIN Assy	AWV2464
	2	TANSHI Assy	AWW1331
	3	232C Assy	AWW1254
⚠	4	AC Inlet (CN1)	AKP1323
	5	Flexible Cable (J212)	ADD1441
	6	Flexible Cable (J213)	ADD1491
	7	Flexible Cable (J217)	ADD1494
	8	12P&15P Housing Wire (J106)	ADX3573
	9	5P Housing Wire (J107)	ADX3574
	10	11/6/3/4P Housing Wire (J114)	ADX3581
	11	11P Housing Wire (J118)	ADX3583
	12	8P/4P Housing Wire (J119)	ADX3531
	13	5P Housing Wire (J125)	ADX3588
	14	Ferrite Core	ATX1069
	15	•••••	
	16	Locking Card Spacer	AEC1429
	17	Wire Saddle	AEC1745
	18	Reuse Wire Saddle	AEC1945
	19	Silicone Sheet Audio	AEH1143
	20	POD Cover	AMR3542
	21	Multi Base Assy (J)	ANA2103
	22	Terminal Panel A (ED)	ANC2441
⚠	23	Gasket FE	ANK1945
	24	Gasket EC	ANK1954
	25	6P Housing Wire (J115)	ADX3582
	26	4P Housing Wire (J122)	ADX3584
	27	Hex. Head Screw	BBA1051
	28	Screw	BMZ30P060FTB
	29	Screw	PMB30P080FNI
	30	Screw	ABA1354

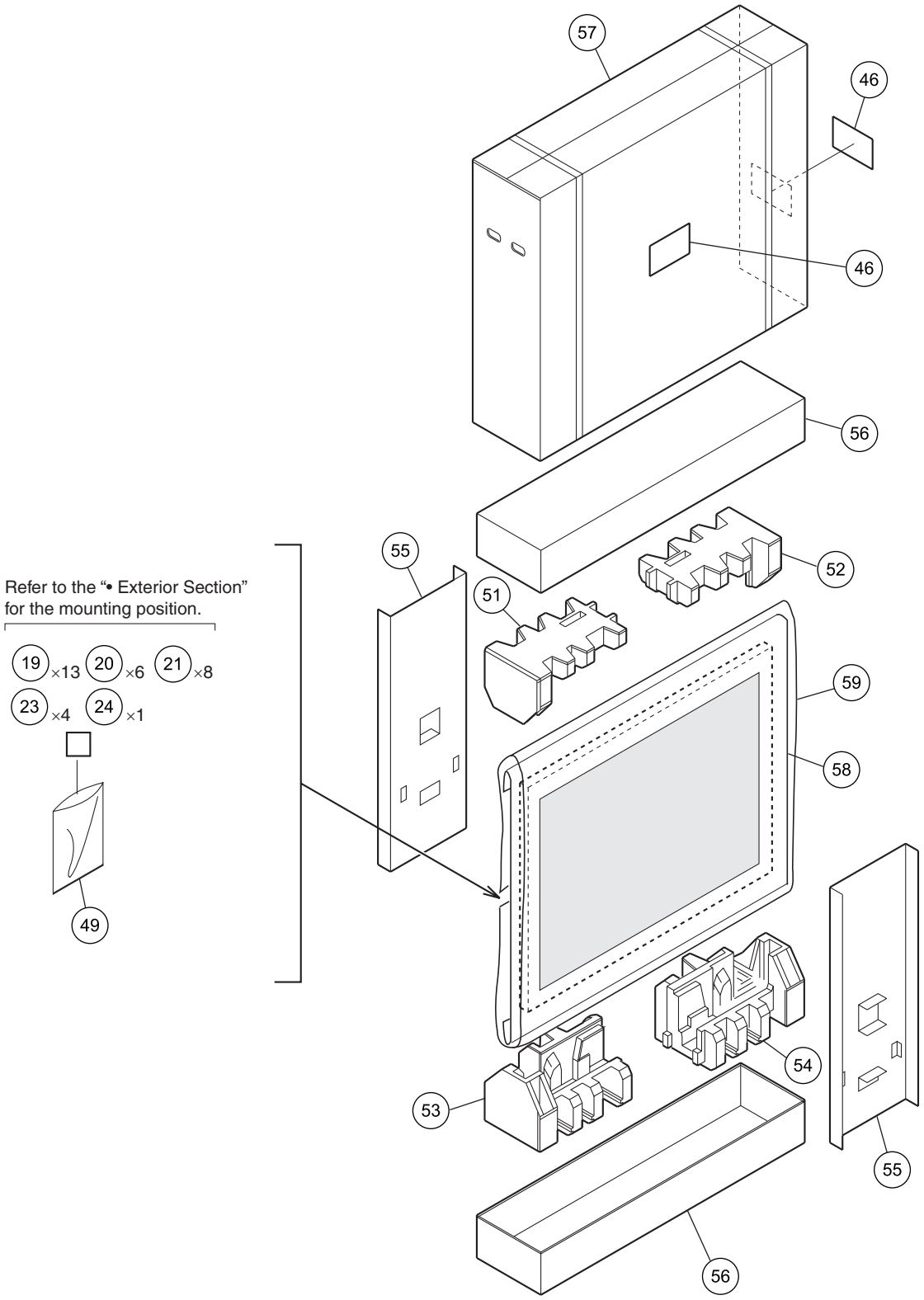
10.9 PDP SERVICE ASSY

PDP SERVICE ASSY 608F	AWU1274	(for PDP-LX6080D/WYVI5)
PDP SERVICE ASSY 608FE	AWU1275	(for PDP-LX608D/WYVI5)

● **Exterior Section**



● Packing Section



PDP SERVICE ASSY PARTS LIST

Mark	No.	Description	Part No.
NSP	1	Panel Chassis Assy	See Contrast table (2)
	2	Sub Frame L Assy 607	ANA1966
	3	Sub Frame R Assy 607	ANA1965
	4	Multi Base Frame L	ANA1970
	5	Multi Base Frame R	ANA1969
	6	Front Chassis H Assy T	ANA2063
	7	Front Chassis H Assy B	ANA2064
	8	Front Chassis VL Assy 60	ANA2065
	9	Front Chassis VR Assy 60	ANA2066
	10	Under Support Assy L	ANA2123
	11	Under Support Assy R	ANA2124
	12	Upper Support L	ANG3052
	13	Upper Support R	ANG3053
	14	Conductive Plate X	ANG3057
NSP	15	Address Plate A	ANG3076
NSP	16	Address Plate B	ANG3077
	17	Wire Saddle	AEC1745
	18	PCB Spacer	AEC1819
	19	PCB Spacer	AEC1947
	20	Wire Clip	AEC1948
	21	Ferrite Clamp	AEC1986
	22	PCB Spacer (reuse)	AEC2087
	23	PCB Spacer (4.5)	AEC2115
	24	PCB Spacer (44.8)	AEC2121
	25	PCB Spacer (reuse)	AEC2122
	26	Rivet	AMR1066
	27	Function Button Holder	AMR3561
	28	Side Input Holder	AMR3562
	29	Front Case Support	AMR3745
	30	Front Chassis H Guide	AMR3684
	31	Address Gasket	ANK1947
NSP	32	Drive Voltage Label	ARW1097
NSP	33	Front Case Assy (608 service)	AMB3057
	34	Rear Case (608)	ANE1664
	35	Screw	ABA1351
	36	Screw	ABA1364
	37	Screw (M3 x 6)	ABA1366
	38	Screw	ABZ30P080FTC
	39	Screw	AMZ30P060FTB
	40	Screw	APZ30P100FTB
	41	Screw	BPZ30P080FTB
	42	Screw	TBZ40P080FTB
	43	•••••	
	44	•••••	
	45	•••••	
	46	Caution Label	AAX3031
	47	•••••	
	48	•••••	
	49	Vinyl Bag S	AHG1338
	50	•••••	
	51	Pad (607 T-L)	AHA2562
	52	Pad (607 T-R)	AHA2563
	53	Pad (607 B-L)	AHA2564
	54	Pad (607 B-R)	AHA2565
	55	Reinforce Carton (607)	AHC1084
	56	Under Carton (607)	AHD3486
	57	Upper Carton (607 service)	AHD3564
	58	Protect Sheet	AHG1401
	59	Mirror Mat	AHG1402

(2) CONTRAST TABLE

PDP-LX6080D/WYVI5 and PDP-LX608D/WYVI5 are constructed the same except for the following:

Mark	No.	Symbol and Description	PDP-LX6080D /WYVI5	PDP-LX608D /WYVI5
NSP	1	Panel Chassis (608F) Assy	AWU1238	Not used
NSP	1	Panel Chassis (608FE) Assy	Not used	AWU1258